

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐  
(highlight changes)

APPLICATION FOR PERMIT TO DRILL		5. MINERAL LEASE NO: ML-49317	6. SURFACE: State
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>		7. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
B. TYPE OF WELL: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____ SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. UNIT or CA AGREEMENT NAME:	
2. NAME OF OPERATOR: The Houston Exploration Company		9. WELL NAME and NUMBER: North Horseshoe 1-16-6-21	
3. ADDRESS OF OPERATOR: 1100 Louisiana Suite 20 CITY Houston STATE TX ZIP 77002		PHONE NUMBER: (713) 830-6800	10. FIELD AND POOL, OR WILDCAT: Undesignated
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 658' FNL & 929' FEL 622867X 40.364304 AT PROPOSED PRODUCING ZONE: Same as above. 44623254 - 109.554227		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 16 T6S R21	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 13.7 miles south of Vernal, UT		12. COUNTY: Uintah	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 658'	16. NUMBER OF ACRES IN LEASE: 720	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 1,500'	19. PROPOSED DEPTH: 10,377	20. BOND DESCRIPTION: 104155044	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 5,091' GR	22. APPROXIMATE DATE WORK WILL START: 1/1/2006	23. ESTIMATED DURATION: 30 Days	

24. PROPOSED CASING AND CEMENTING PROGRAM							
SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT		
11"	8 5/8"	J-55	36#	2,000	Premium Lite II	250 SKS	3.38 CF 11.0 PPG
					CLASS "G"	329 SKS	11.0 PPG 15.6 PPG
					Calcium Chloride	200 SKS	1.10 CF 15.6 PPG
7 7/8	4 1/2	N-80	11.6#	10,377	Premium Lite II	200 SKS	3.3 CF 14.3 PPG

25. ATTACHMENTS	
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:	
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER	<input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

CONFIDENTIAL

NAME (PLEASE PRINT) William A Ryan TITLE Agent  
SIGNATURE *William A Ryan* DATE 11/22/2005

(This space for State use only)

API NUMBER ASSIGNED: 43-047-37442

Approved by the  
Utah Division of  
Oil, Gas and Mining  
Date: 06-29-06  
By: *[Signature]*

RECEIVED  
DEC 01 2005  
DIV. OF OIL, GAS & MINING

(11/2001)

*T6S, R21E, S.L.B.&M.*

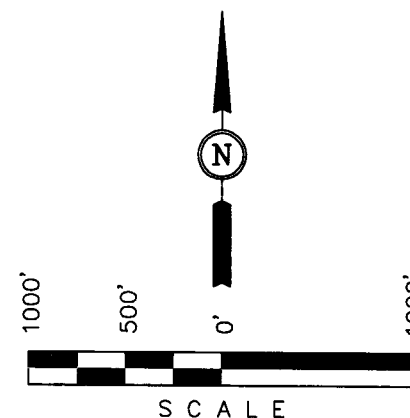
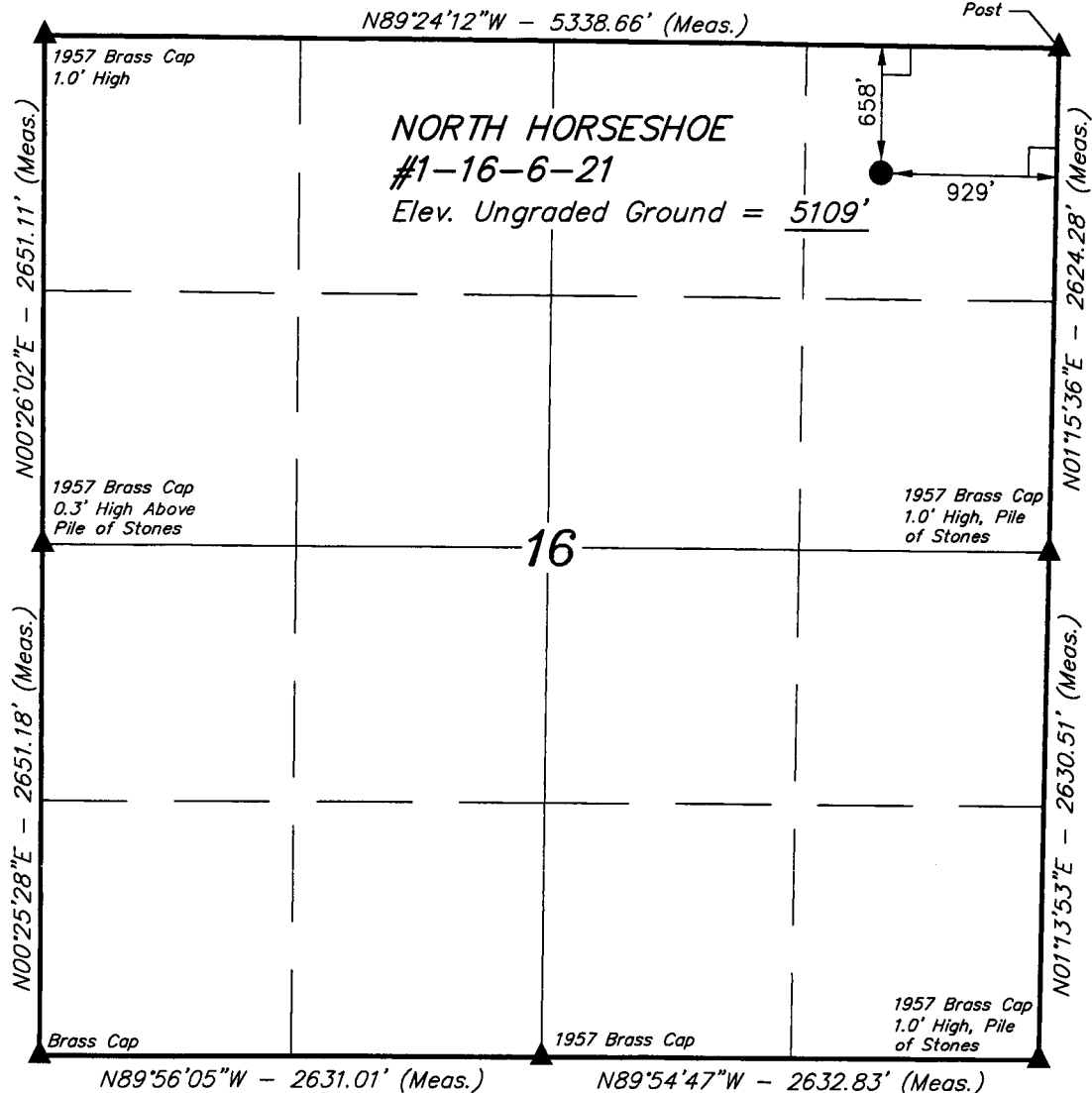
1957 Brass Cap  
0.4' High, Pile  
of Stones, Steel  
Post —

THE HOUSTON EXPLORATION COMPANY

Well location, NORTH HORSESHOE #1-16-6-21,  
located as shown in the NE 1/4 NE 1/4 of  
Section 16, T6S, R21E, S.L.B.&M. Uintah County,  
Utah.

### BASIS OF ELEVATION

SPOT ELEVATION AT THE NORTHWEST CORNER OF SECTION 16, T6S, R21E, S.L.B.&M. TAKEN FROM THE VERNAL, SE QUADRANGLE, UTAH, Uintah County, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5217 FEET.



CERTIFICAT

THIS IS TO CERTIFY THAT THE ABOVE REPORT WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.




REGISTERED LAND SURVEYOR  
REGISTRATION NO. 167319  
STATE OF UTAH

## BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)  
 LATITUDE = 40°18'15.30" (40.304250)  
 LONGITUDE = 109°33'17.81" (109.554947)  
 (AUTONOMOUS NAD 27)  
 LATITUDE = 40°18'15.44" (40.304289)  
 LONGITUDE = 109°33'15.32" (109.554256)

LEGEND:

 = 90° SYMBOL  
 = PROPOSED WELL HEAD.  
 = SECTION CORNERS LOCATED.

# UINTAH ENGINEERING & LAND SURVEYING

85 SOUTH 200 EAST - VERNAL, UTAH 84078

(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 11-04-05	DATE DRAWN: 11-08-05
PARTY N.H. D.S. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE THE HOUSTON EXPLORATION COMPANY	

## THE HOUSTON EXPLORATION COMPANY

WELL NAME	API	LEAD sks	TAIL sks
NH 9-16-6-21	43-047-37439	415	514
NH 3-16-6-21	43-047-37391	415	514
NH 13-16-6-21	43-047-37575	415	514
NH 15-2-6-21	43-047-37477	415	514
NH 13-2-6-21	43-047-37476	415	514
NH 11-16-6-21	43-047-37441	499	515
NH 7-16-6-21	43-047-37438	499	515
NH 1-16-6-21	43-047-37442	499	515
NH 15-16-6-21	43-047-37440	499	515
NH 12-7-6-22	43-047-37392	415	515
NH 16-9-6-22	43-047-37393	415	515
NH 14-10-6-22	43-047-37394	415	515
NH 4-15-6-22	43-047-37396	415	515
NH 2-15-6-22	43-047-37395	415	515
NWH 13-36-6-23	43-047-37463	357	526
NWH 15-36-6-23	43-047-37464	357	526
NWH 11-36-6-23	43-047-37462	357	526
NWH 14-32-6-23	43-047-37478	357	526
NWH 2-32-6-23	43-047-37399	357	526
NWH 8-32-6-23	43-047-37401	357	526
NWH 10-32-6-23	43-047-37400	357	526
NWH 12-32-6-23	43-047-37397	357	526
NWH 16-32-6-23	43-047-37398	357	526
G 2-2-6-19	43-047-37561	153	1,050
G 16-2-6-19	43-047-37562	153	1,050
G 1-2-6-19	43-047-37563	153	1,050
G 3-2-6-19	43-047-37568	153	1,050

**Clinton Dworshak - cement sks changes**

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**From:** eric bowedn <starman686@yahoo.com>  
**To:** <clintondworshak@utah.gov>  
**Date:** 1/18/2006 1:39 PM  
**Subject:** cement sks changes

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here are the cement sks changes that you requested.

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Yahoo! Photos – Showcase holiday pictures in hardcover  
Photo Books. You design it and we'll bind it!

## **Ten Point Plan**

### **The Houston Exploration Company**

#### **North Horseshoe 1-16-6-21**

Surface Location NE ¼ NE ¼, Section 16, T. 6S., R. 21E.

#### **1. Surface Formation**

Green River

#### **2. Estimated Formation Tops and Datum:**

<u>Formation</u>	<u>Depth</u>	<u>Datum</u>
GR	Surface	5,091'
KB	+12'	5,103'
Green River	4,377'	+714'
Wasatch	7,777'	-2,686'
Mesaverda	10,377'	-5,286'TD

A 11" hole will be drilled to 2,000' +/- . The hole depth will depend on the depth that the Birds Nest Zone is encountered. The hole will be drilled 400' beyond the top of the Birds Nest.

#### **3. Producing Formation Depth:**

Formation objective includes the Green River, Wasatch, Mesaverde and its sub-members.

Off set well information

Permitted/Drilled:

North Horseshoe #15-16-6-21

North Horseshoe #11-16-6-21

North Horseshoe #9-16-6-21

North Horseshoe #7-16-6-21

North Horseshoe #3-16-6-21

Abandoned Wells:

Carter #1

#### 4. Proposed Casing:

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight/FT</u>	<u>Grade</u>	<u>Coupling &amp; Tread</u>	<u>Casing Depth</u>	<u>New/Used</u>
11	8 5/8	36#	J-55	STC	2000	NEW
7 7/8	4 1/2	11.6#	N-80	LTC	T.D.	NEW

#### Cement Program:

The Surface Casing will be cemented to the Surface as follows:

	<u>Casing Size</u>	<u>Cement Type</u>	<u>Cement Amounts</u>	<u>Cement Yield</u>	<u>Cement Weight</u>
Lead:	8 5/8	Premium Lite II .05#/sk Static Free .25#/sk Cello Flake 5#/sk KOL Seal .002 gps FP-6L 10% Bentonite .5% Sodium Metasilicate 3% Potassium Chloride	250 sks. +/-	3.38ft <sup>3</sup> /sk	11.0 ppg
Tail:	8 5/8	Class "G" 2% Calcium Chloride .25#/sk Cello Flake	329 sks. +/-	1.2ft <sup>3</sup> /sk	15.6 ppg
Top Job:	8 5/8	4% Calcium Chloride .25#/sk Cello Flake	200 sks. +/-	1.10ft <sup>3</sup> /sk	15.6 ppg

Production casing will be cemented to 2,500' or higher as follows:

	<u>Casing Size</u>	<u>Cement Type</u>	<u>Cement Amounts</u>	<u>Cement Yield</u>	<u>Cement Weight</u>
Lead:					
	4 1/2	Premium Lite II .25#/sk Cello Flake .05#/sk Static Free 5#/sk Kol Seal 3% Potassium Chloride .055 gps FP-6L 10% Bentonite .5 Sodium Metasilicate	200 sks +/-	3.3ft <sup>3</sup> /sk	11.0 ppg
Tail:					
	4 1/2	Class "G" .05% Static Free 2 Sodium Chloride .1% R-3 2% Bentonite	400 sks +/-	1.56ft <sup>3</sup> /sk	14.3 ppg

## **5. BOP and Pressure Containment Data:**

The anticipated bottom hole pressure will be less than 5000 psi.

A 5000-psi WP BOP system as described in the BOP and Pressure Containment Data (attached) will be installed and maintained from the 8 5/8" surface casing. The BOP system including the casing will be pressure tested to minimum standards set forth in "On Shore Order #2". The BOP will be mechanically checked daily during the drilling operation.

## 6. Mud Program:

<u>Interval</u>	<u>Mud weight lbs./gal.</u>	<u>Viscosity Sec./OT.</u>	<u>Fluid Loss Ml/30 Mins.</u>	<u>Mud Type</u>
0-2000	Air/Clear Water	-----	No Control	Water/Gel
2000-T.D.	8.4-12.0	30	8-10	Water/Gel

## 7. Auxiliary Equipment

Upper Kelly cock, full opening stabbing valve, 2 ½" choke manifold and pit level indicator.

## 8. Testing, Coring, Sampling and Logging:

- a) Test: None are anticipated.
- b) Coring: There is the possibility of sidewall coring.
- c) Sampling: Every 10' from 2000' to T.D.
- d) Logging: 

Type	Interval
DLL/SFL W/GR and SP	T.D. to Surf. Csg
FDC/CNL W/GR and CAL	T.D. to Surf. Csg

## 9. Abnormalities (including sour gas):

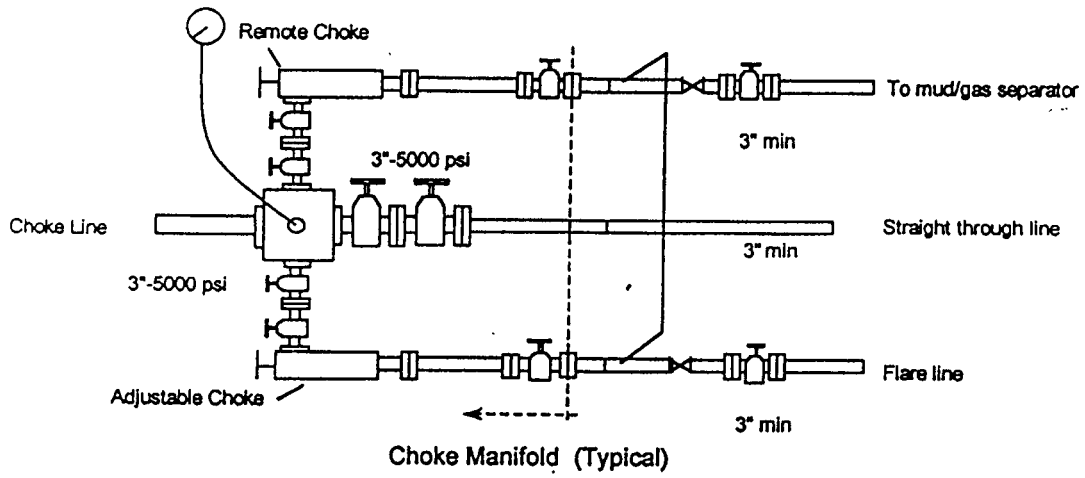
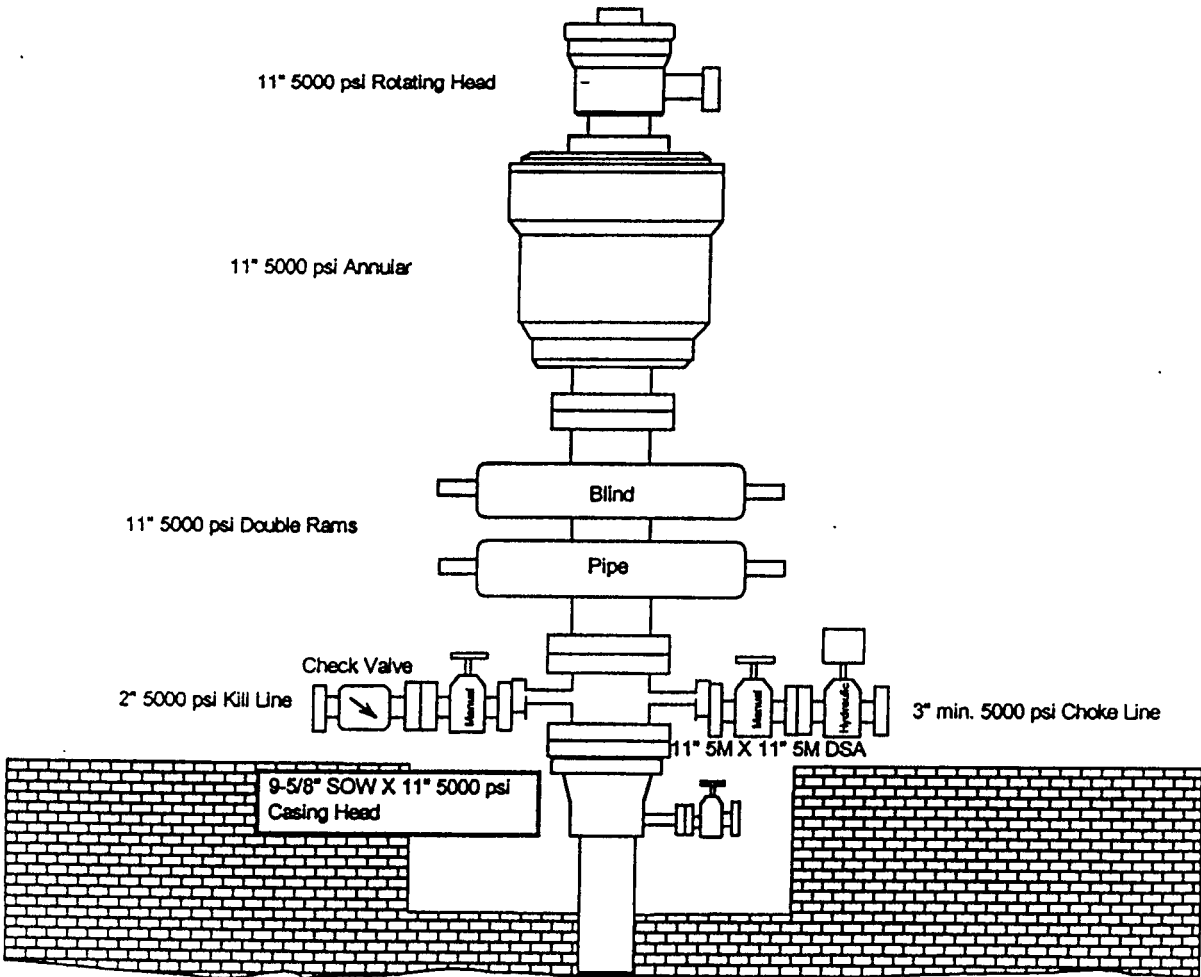
No abnormal pressures, temperatures or other hazards are anticipated. Oil and gas shows are anticipated in the Wasatch Formation. Other wells drilled in the area have not encountered over pressured zones or H<sub>2</sub>S.

## 10. Drilling Schedule:

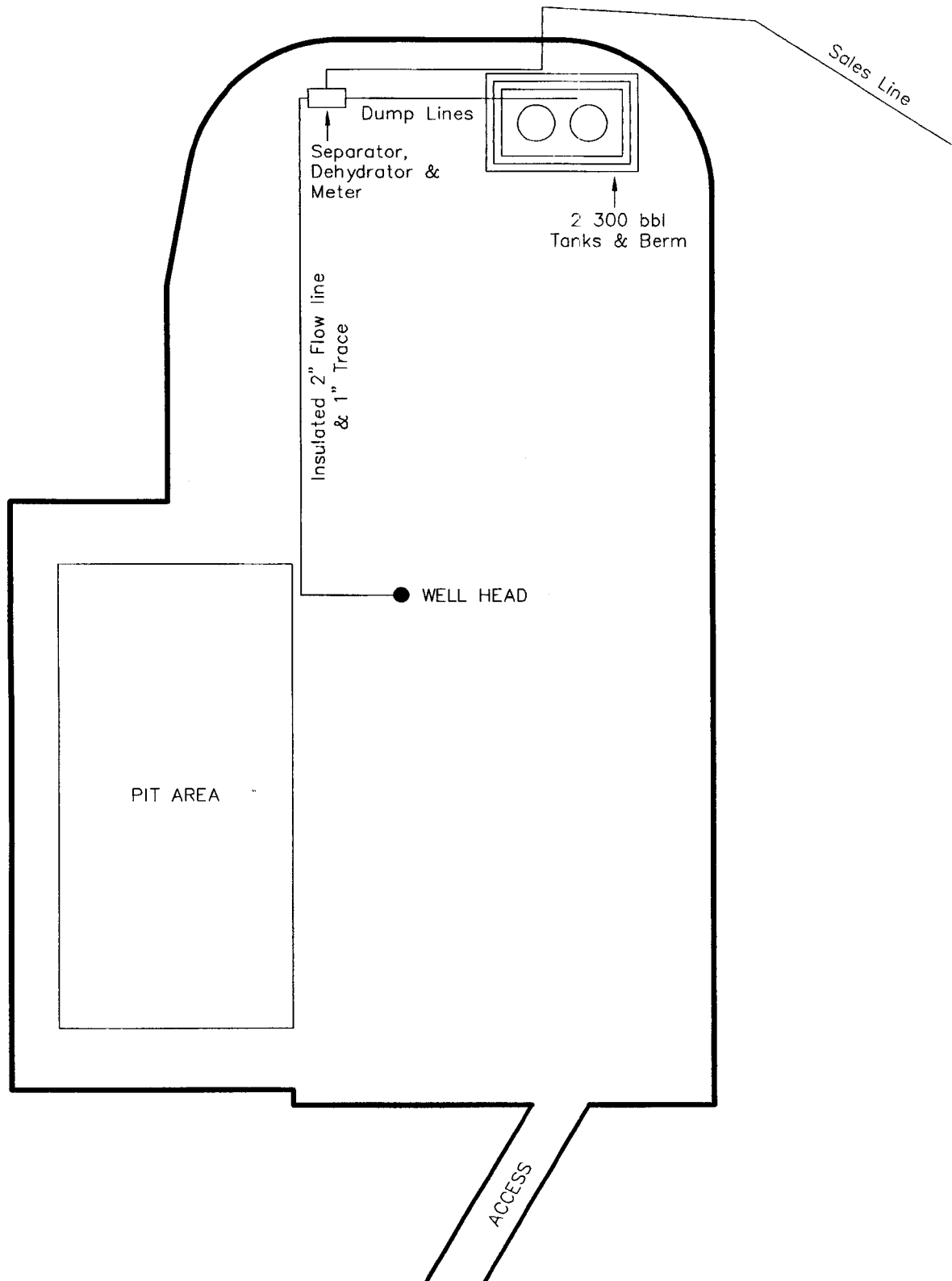
The anticipated starting date is 01/01/2006. Duration of operations is expected to be 30 days.



BOPE Diagram  
5000 psi WP



# TYPICAL PRODUCTION LAYOUT



**THE HOUSTON EXPLORATION COMPANY**

**13 POINT SURFACE USE PLAN**

**FOR WELL**

**NORTH HORSESHOE 1-16-6-21**

**LOCATED IN NE  $\frac{1}{4}$  NE  $\frac{1}{4}$**

**SECTION 16, T.6S, R21E, S.L.B.&M.**

**UINTAH COUNTY, UTAH**

**LEASE NUMBER: ML-49317**

**SURFACE OWNERSHIP: STATE**

1. Existing Roads:

**To reach The Houston Exploration Co. well North Horseshoe 1-16-6-21 in Section 16, T6S, R 21E, Starting in Vernal, Utah.**

**Proceed in a westerly direction from Vernal, UT along US Highway 40 approximately 6.3 miles to the junction of this road and an existing road to the southeast; exit left and proceed in a southeasterly, then southerly direction approximately 5.1 miles to the junction of this road and an existing road to the southeast; turn right and proceed in a southeasterly direction approximately 1.3 miles to the beginning of the proposed access for the 7-16-6-21 to the southeast; follow road flags in a southeasterly direction approximately 0.6 miles to the beginning of the proposed access to the northeast; follow road flags in a northeasterly, then southeasterly direction approximately 0.4 miles to the proposed location.**

**Total distance from Vernal, Utah to the proposed well location is approximately 13.7 miles.**

All existing roads to the proposed location are State of Utah, BLM maintained or County Class D roads. Please see the attached map for additional details.

2. Planned access road

**The proposed access road will be approximately 2112' +/- of new construction on lease. The road will be graded once per year minimum and maintained.**

A) Approximate length	2112 ft
B) Right of Way width	30 ft
C) Running surface	18 ft
D) Surface material	Native soil
E) Maximum grade	8%
F) Fence crossing	None
G) Culvert	None
H) Turnouts	None
I) Major cuts and fills	No
J) Road Flagged	Yes
K) Access road surface ownership	State
L) All new construction on lease	Yes
M) Pipe line crossing	None

Please see the attached location plat for additional details.

**An off lease right-of-way will not be required.**

All surface disturbances for the road and location will be within the lease boundary.

3. Location of existing wells

The following wells are located within a one-mile radius of the location site.

A) Producing well	None
B) Water well	None
C) Abandoned well	
CRT #1	
D) Temp. abandoned well	None
E) Disposal well	None

**F) Drilling /Permitted well**  
**North Horseshoe 11-16-6-21**  
**North Horseshoe 7-16-6-21**  
**North Horseshoe 3-16-6-21**  
**North Horseshoe 15-16-6-21**  
**North Horseshoe 9-16-6-21**  
**North Horseshoe 13-16-6-21**

**G) Shut in wells**                      **None**  
**H) Injection well**                      **None**  
**I) Monitoring or observation well**  
   **None**

Please see the attached map for additional details.

4. Location of tank batteries, production facilities and production gathering service lines.

All production facilities are to be contained within the proposed location site. Please see the attached plat plan for a typical gas well separator installation and well site piping.

All permanent (on site for more than six months or longer) structures constructed or installed will be painted an **Carlsbad Canyon** color. Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded. The required paint color is **Carlsbad Canyon**.

All tanks will be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank in the battery. The integrity of the dike will be maintained.

All off lease storage, off lease measurement, commingling on lease or off lease, of production, will have

prior written approval from the authorized officer.

If the well is capable of economic production a surface gas line will be required.

**Approximately 5,800' +/- of 3" steel surface gas gathering line would be constructed on State Lands. The line will tie into the proposed pipeline in Section 16, T6S, R21E. The pipeline would be strung and boomed to the west and south of the location. The pipeline may be buried as determined by the Authorized Officer at the onsite.**

**An off lease right-of-way will not be required.**

**Please see the attached location diagrams for pipeline location.**

The gas meter run will be located within 500' of the wellhead. The gas line will be buried or anchored down from the wellhead to the meter. Meter runs will be housed and/or fenced.

The gas meter will be calibrated and the tank strapped in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The authorized officer will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration report will be submitted to the State of Utah, Division of Oil, Gas, and Mining.

All measurement facilities will conform to API (American Petroleum Institute) and AGA (American Gas Association) standards for gas and liquid hydrocarbon measurement.

5. Location and type of water supply

**Water for drilling and cementing will come from The Green River in Permit # T-76073.**

6. Source of construction materials

All construction material for this location site and access road shall be borrow material accumulated during construction of the location site and access road. Additional road gravel or pit lining material will be obtained from private resources.

7. Methods for handling waste disposal

A) Pit construction and liners:

The reserve pit will be approximately **12 ft.** deep and most of the depth shall be below the surface of the existing ground. Please see the attached plat for details.

The reserve pit will be lined.

The reserve pit will be used to store water for drilling. A semi-closed system will be used to drill the well. All fresh water for drilling will come from a frac tank placed on location and from the rig tank. The pit will be used

to hold non-flammable materials such as cuttings, salt, drilling fluids, chemicals, produced fluids, etc.

B) Produced fluids:

Produced water will be confined to the reserve pit, or if deemed necessary, a storage tank for a period not to exceed 90 days after initial production. During the 90-day period an application for approval for permanent disposal method and location will be submitted to the authorized officer. **Evaporation may be used instead of trucking to facilitate closing and reclamation of the reserve pit. A pumping system would be used for evaporation.**

C) Garbage:

A trash cage fabricated from expanded metal will be used to hold trash on location and will be removed to an authorized landfill location.

D) Sewage:

A portable chemical toilet will be supplied for human waste.

E) Site clean-up:

After the rig is moved off the location the well site area will be cleaned and all refuse removed.

8. Ancillary facilities

There are no ancillary facilities planned at this time and none are foreseen for the future.

9. Well-site layout

Location dimensions are as follows:

<b>A) Pad length</b>	<b>345 ft.</b>
<b>B) Pad width</b>	<b>245 ft.</b>
<b>C) Pit depth</b>	<b>12 ft.</b>
<b>D) Pit length</b>	<b>150 ft.</b>
<b>E) Pit width</b>	<b>75 ft.</b>
<b>F) Max cut</b>	<b>55.6 ft.</b>
<b>G) Max fill</b>	<b>34.7 ft.</b>
<b>H) Total cut yds.</b>	<b>52,680 cu yds</b>
<b>I) Pit location</b>	<b>West end</b>
<b>J) Top soil location</b>	<b>South end</b>
<b>K) Access road location</b>	<b>West end</b>
<b>L) Flare Pit</b>	<b>corner C</b>

Please see the attached location diagram for additional details.

All pits will be fenced according to the following minimum standards:

- A) Thirty nine inch net wire shall be used with at least one strand of wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- B) The net wire shall be no more than 2 inches above the ground. The barbed wire shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.

- C) Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

- D) Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than 16 ft.

- E) All wire shall be stretched by using a stretching device before it is attached to the corner posts.

10. Plans for restoration of the surface

Prior to construction of the location, the top 6 inches of soil material will be stripped off the location and the pit area. The topsoil removed and piled will amount to approximately **1,620** cubic yards of material. Topsoil will be stockpiled in one distinct pile. Placement of the topsoil is noted on the attached location plat. The topsoil pile from the location will be seeded as soon as the soil is stock piled with the seed mix listed. When all drilling and completion activities have been completed and the pit back-filled the topsoil from the pit area will be spread on the pit area. The pit area will be seeded when the soil has been spread. The unused portion of the location (the area outside the dead men) will be re-contoured.

The dirt contractor will be provided with an approved copy of the surface use plan prior to construction activities.

Changes to the drainage during the construction activities shall be restored to its original line of flow or as near as possible when the pit is back-filled.

All disturbed areas will be re-contoured to the approximate natural contours. Prior to back filling the pit the fences around the reserve pit will be removed.

The reserve pit will be reclaimed within 90 days of well completion. If the reserve pit has not dried sufficiently to allow back filling, an extension on the time requirement for back filling the pit will be requested. Once reclamation activities have begun, they shall be completed within 30 days.

After the reserve pit has been reclaimed, no depressions in the soil covering the reserve pit will be allowed. The objective is to keep seasonal rainfall and run off from seeping into the soil used to cover the reserve pit. Diversion ditches and water bars will be used to divert the run off as needed.

When restoration activities have been completed, the location site and new access road cuts and shoulders shall be reseeded. Prior to reseeded, all disturbed areas will be scarified and left with a rough surface.

**A) Seeding dates:**

Seed will be spread when topsoil is stock piled and when reclamation work is performed.

The seed mix and quantity list will be used whether the seed is broadcast or drilled.

**B) Seed Mix**

**To be determined by the Authorized Officer.**

**11. Surface ownership:**

<b>Access road</b>	<b>State</b>
<b>Location</b>	<b>State</b>
<b>Pipeline</b>	<b>State</b>

**12. Other information:**

**A) Vegetation**

The vegetation coverage is slight. The majority of the existing vegetation consists of non-native species. Rabbit brush, bitter brush, and Indian Rice grass and Sagebrush are also found on the location.

**B) Dwellings:**

There are no dwelling or other facilities within a one-mile radius of the location.

**C) Archeology:**

The location has been surveyed. A copy of that survey will be forwarded to your office.

If, during operations, any archaeological or historical sites, or any objects of antiquity (subject to the antiquities act of June 8, 1906) are discovered, all



operations, which would affect such sites, will be suspended and the discovery reported promptly to the surface management agency.

Within five (5) business days after the new well begins, or production resumes after well has been off production for more than 90 days.

D) Water:

**The nearest water is the Green River located 6,500' to the South.**

E) Chemicals:

No pesticides, herbicides or other possible hazardous chemicals will be used without prior application.

F) Notification:

- a) Location Construction  
At least forty-eight (48) hours prior to construction of location and access roads.
- b) Location completion  
Prior to moving on the drilling rig.
- c) Spud notice  
At least twenty-four (24) hours prior to spudding the well.
- d) Casing string and cementing  
At least twenty-four (24) hours prior to running casing and cementing all casing strings.
- e) BOP and related equipment tests  
At least twenty-four (24) hours prior to initial pressure tests.
- f) First production notice

G) Flare pit:

The flare pit will be located in **corner C** of the reserve pit outside the pit fences and 100 feet from the bore hole on the east side of the location. All fluids will be removed from the pit within 48 hours of occurrence.

13. Lessees or Operator's representative and certification.

A) Representative

William A. Ryan  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078

Office 435-789-0968  
Fax 435-789-0970  
Cellular 435-828-0968

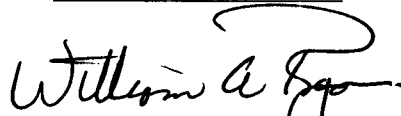
All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, onshore oil and gas orders, and any applicable notices to lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

This drilling permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

**B) Certification:**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill-site and access route that I am familiar with the conditions which presently exist, that the statements made in this plan are, to the best of my knowledge and belief, true and correct, and that the work associated with the operation proposed herein will be performed by The Houston Exploration Company and its contractors and subcontractors in conformity with this plan and terms and conditions with this plan and the terms and conditions under which it is approved.

Date \_\_\_\_\_

A handwritten signature in black ink, appearing to read "William A. Ryan", with a large, stylized flourish extending from the end of the signature.

William A. Ryan, Agent  
Rocky Mountain Consulting

**Onsite Dates:**

### **Statement of use of Hazardous Materials**

No chemical(s) from the EPA's consolidated list of Chemicals subject to Reporting under Title III of the Superfund Amendments and Reauthorization, Act (SARA) of 1986 will be used, produced, transported, stored, disposed, or associated with the proposed action. No extremely hazardous substances, as defined in 40 cfr 355, will be used, produced, stored, transported, disposed, or associated with the proposed action.

If you require additional information please contact:

William A Ryan  
Agent for The Houston Exploration Company  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078

435-789-0968 Office  
435-828-0968 Cell  
435-789-0970 Fax



# THE HOUSTON EXPLORATION COMPANY

## NORTH HORSESHOE #1-16-6-21

LOCATED IN UINTAH COUNTY, UTAH

SECTION 16, T6S, R21E, S.L.B.&M.

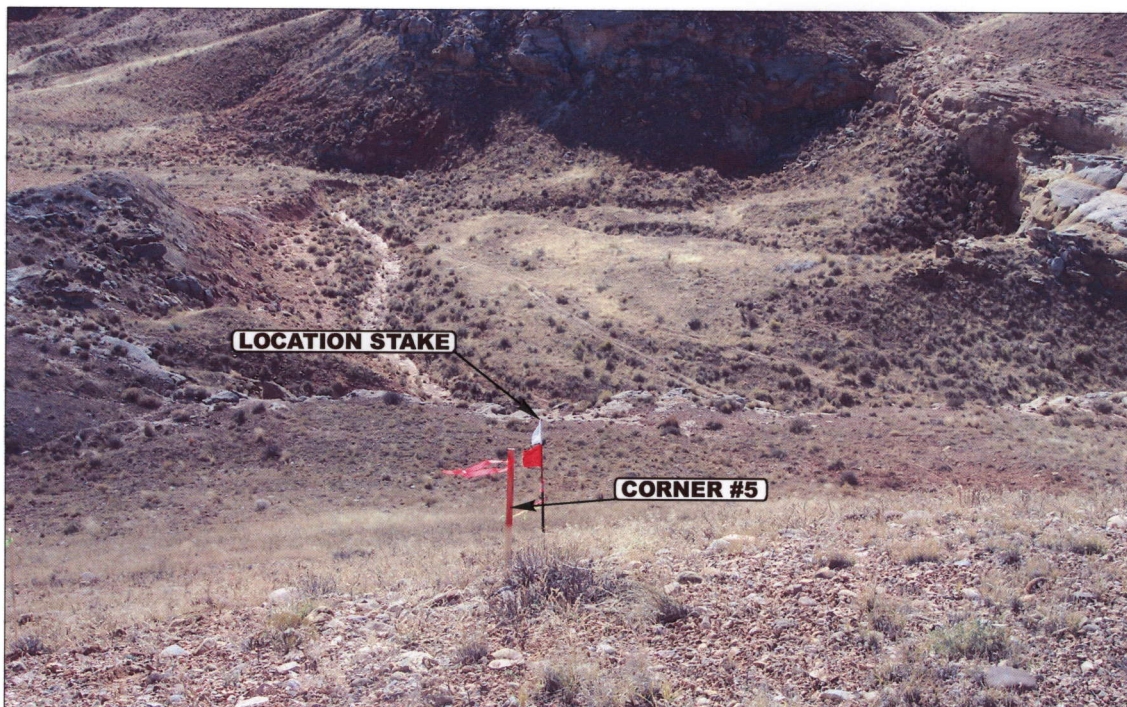


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: SOUTHERLY

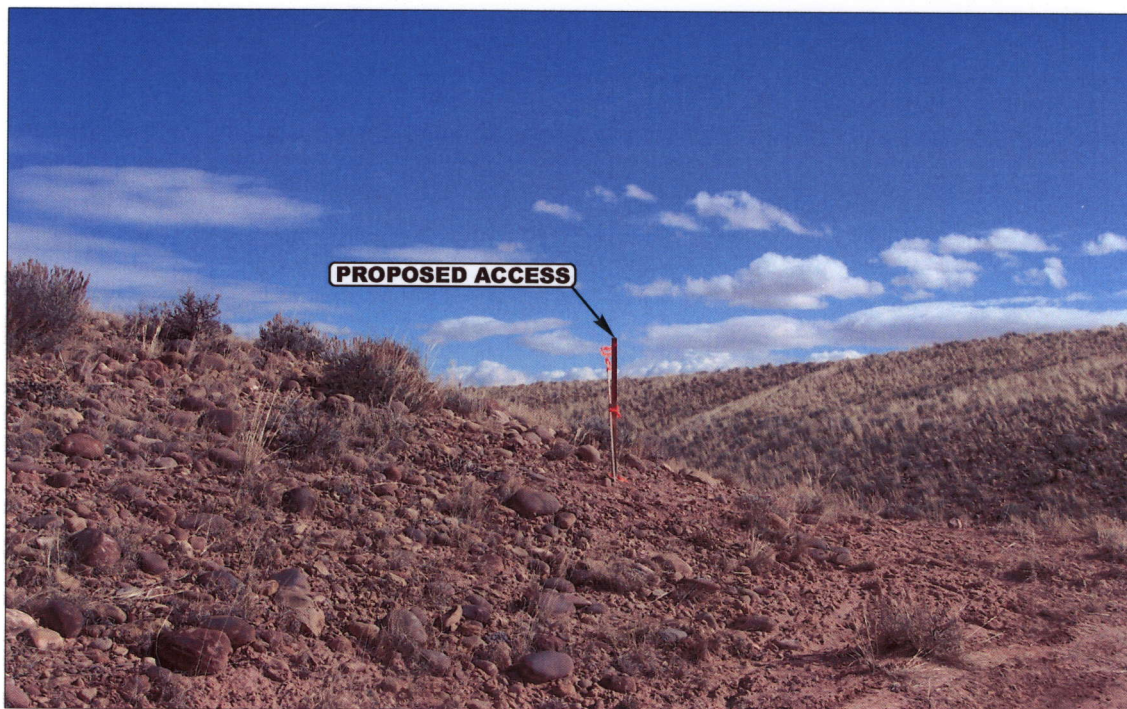


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: EASTERLY



- Since 1964 -

**UELS** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
435-789-1017 uels@uelsinc.com

**LOCATION PHOTOS**

**11 07 05**  
MONTH DAY YEAR

**PHOTO**

TAKEN BY: N.H.

DRAWN BY: L.K.

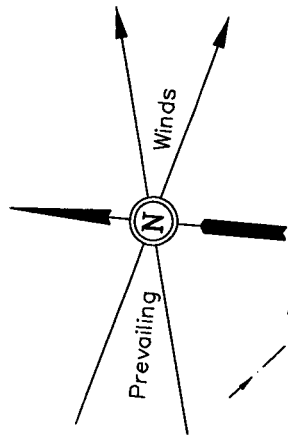
REVISED: 00-00-00

# THE HOUSTON EXPLORATION COMPANY

FIGURE #1

## LOCATION LAYOUT FOR

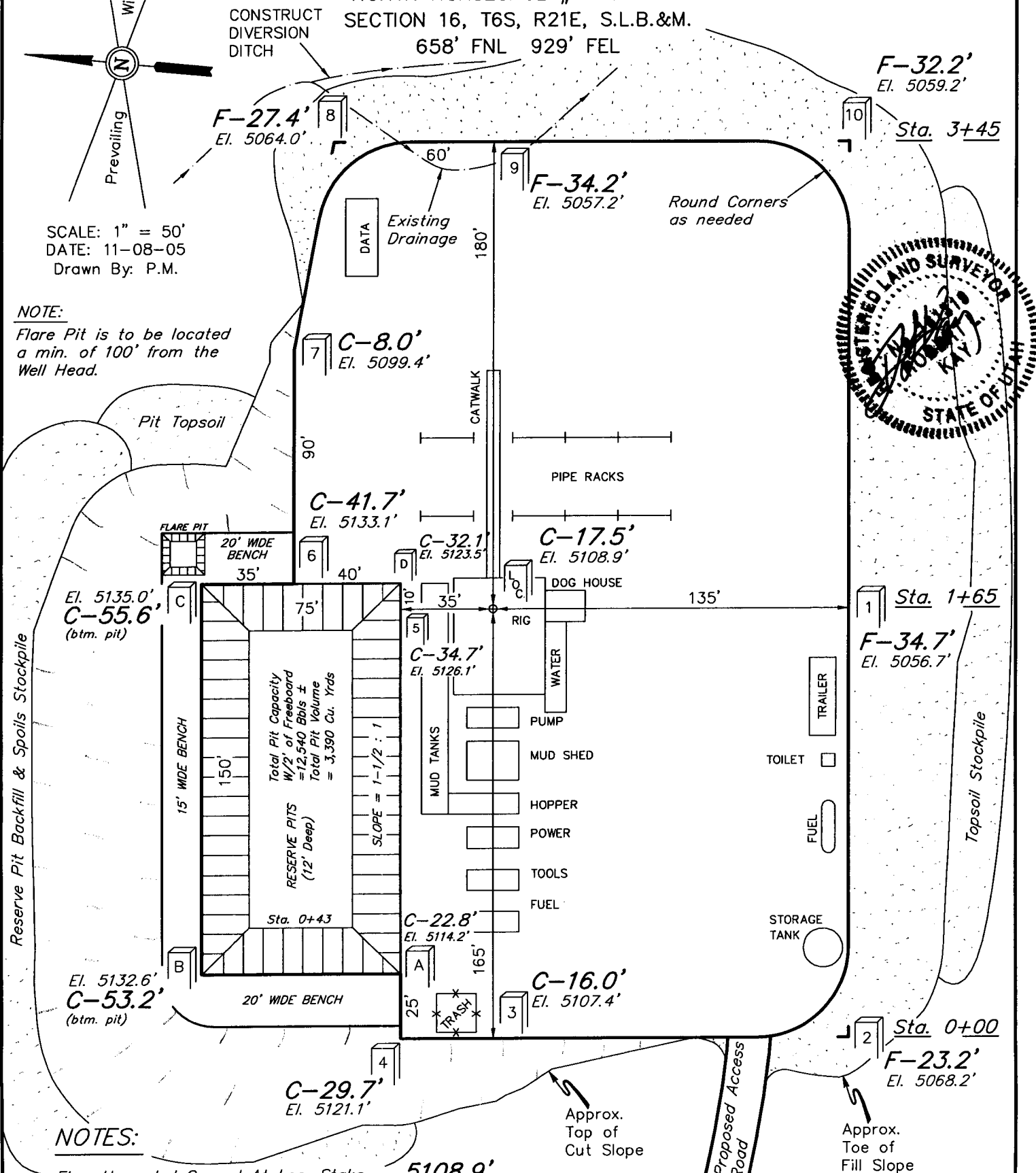
NORTH HORSESHOE #1-16-6-21  
SECTION 16, T6S, R21E, S.L.B.&M.  
658' FNL 929' FEL



SCALE: 1" = 50'  
DATE: 11-08-05  
Drawn By: P.M.

### NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.



### NOTES:

Elev. Ungraded Ground At Loc. Stake = 5108.9'

FINISHED GRADE ELEV. AT LOC. STAKE = 5091.4'

UINTAH ENGINEERING & LAND SURVEYING  
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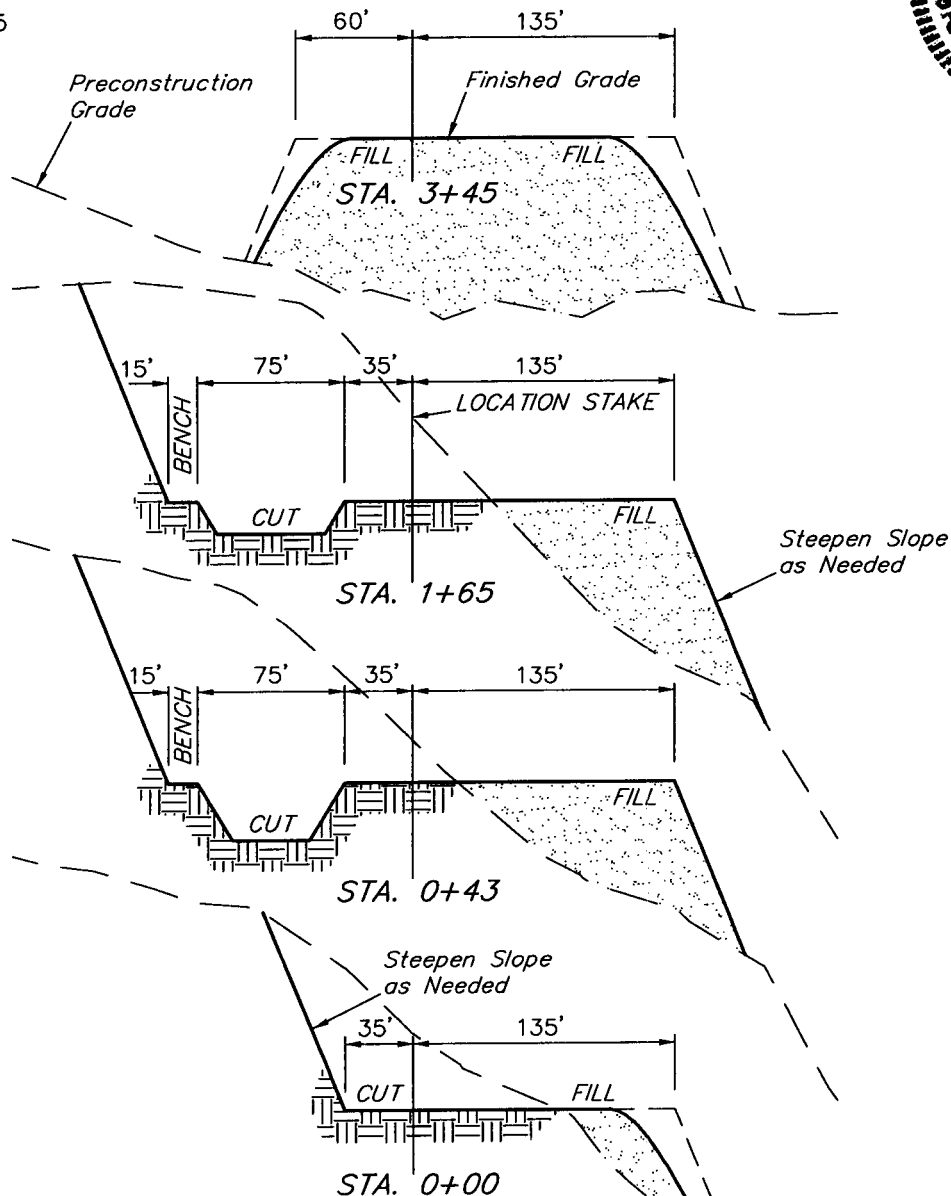
# THE HOUSTON EXPLORATION COMPANY

FIGURE #2

TYPICAL CROSS SECTIONS FOR  
NORTH HORSESHOE #1-16-6-21  
SECTION 16, T6S, R21E, S.L.B.&M.  
658' FNL 929' FEL

1" = 40'  
X-Section  
Scale  
1" = 100'

DATE: 11-08-05  
Drawn By: P.M.



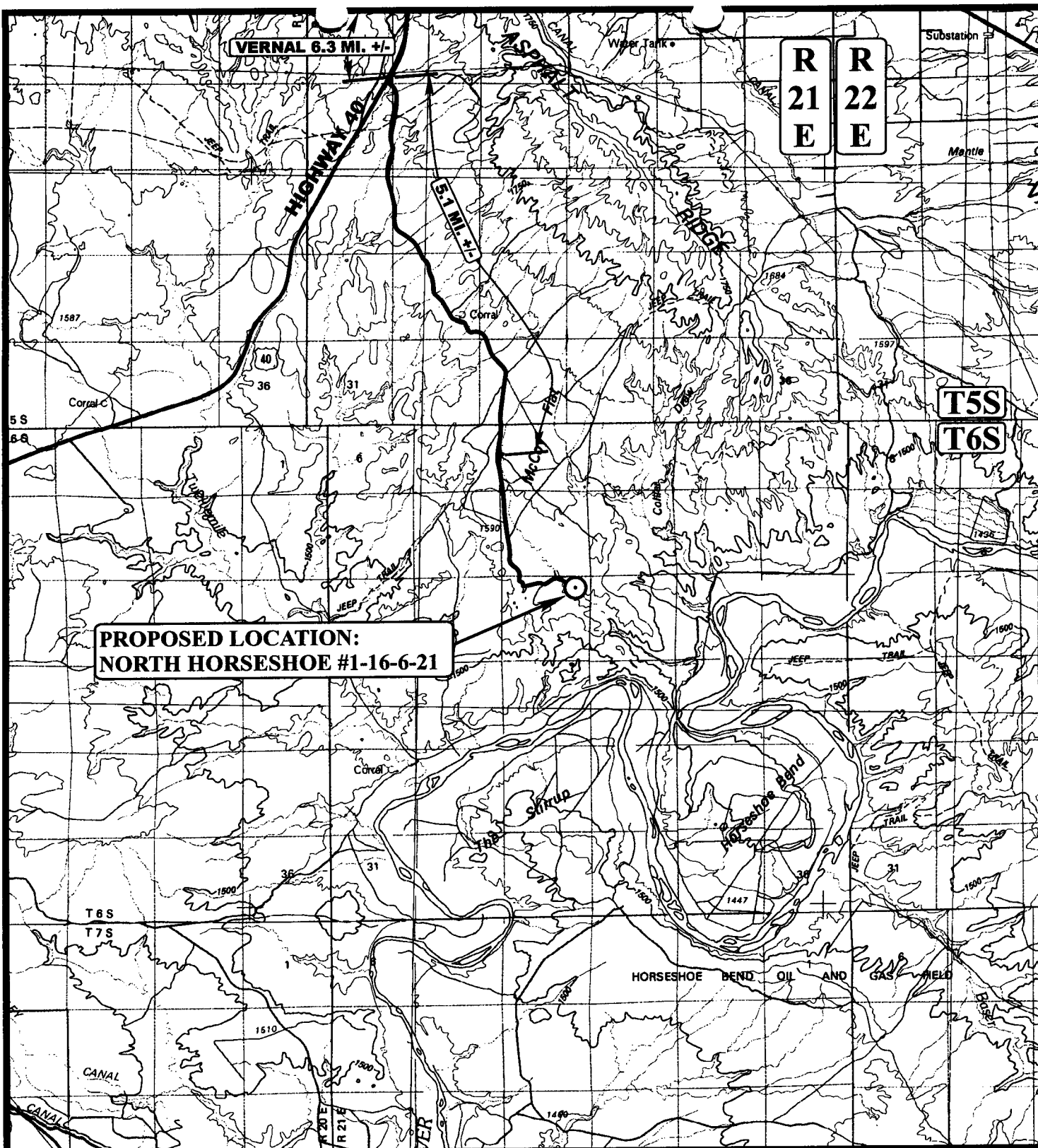
\* NOTE:  
FILL QUANTITY INCLUDES  
5% FOR COMPACTION

## APPROXIMATE YARDAGES

CUT  
(6") Topsoil Stripping = 1,620 Cu. Yds.  
Remaining Location = 51,060 Cu. Yds.  
  
TOTAL CUT = 52,680 CU.YDS.  
FILL = 49,370 CU.YDS.

EXCESS MATERIAL = 3,310 Cu. Yds.  
Topsoil & Pit Backfill  
(1/2 Pit Vol.) = 3,310 Cu. Yds.  
EXCESS UNBALANCE = 0 Cu. Yds.  
(After Rehabilitation)

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**PROPOSED LOCATION:  
NORTH HORSESHOE #1-16-6-21**

# **LEGEND:**

○ PROPOSED LOCATION



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## **THE HOUSTON EXPLORATION COMPANY**

**NORTH HORSESHOE #1-16-6-21**  
**SECTION 16, T6S, R21E, S.L.B.&M.**  
**658' FNL 929' FEL**

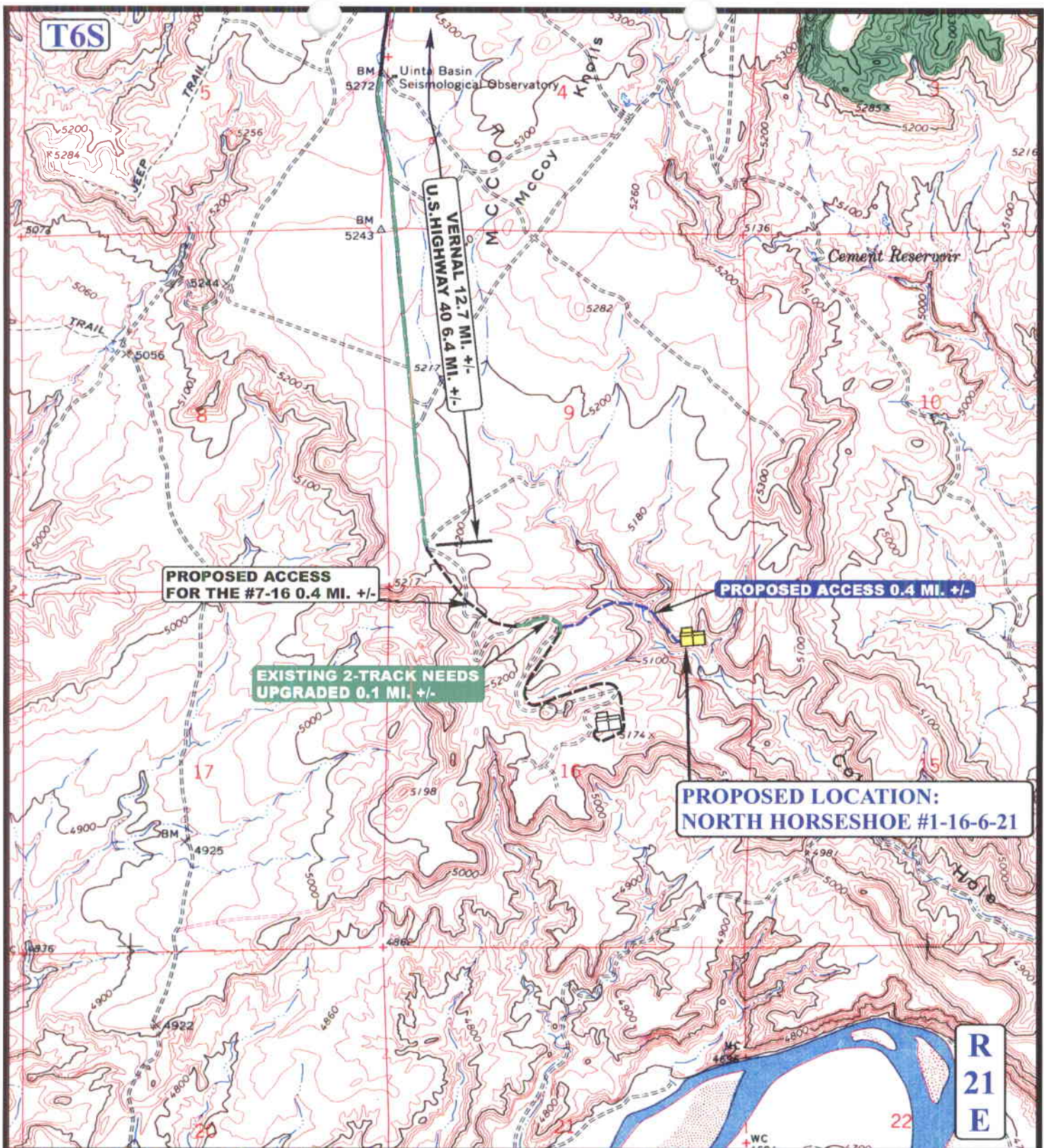
**TOPOGRAPHIC  
MAP**

**11 07 05**  
MONTH DAY YEAR

**SCALE: 1:100,000 DRAWN BY: L.K. REVISED: 00-00-00**







## LEGEND:

- EXISTING ROAD
- - - PROPOSED ACCESS ROAD
- - - EXISTING 2-TRACK NEEDS UPGRADED

## THE HOUSTON EXPLORATION COMPANY

**NORTH HORSESHOE #1-16-6-21**  
**SECTION 16, T6S, R21E, S.L.B.&M.**  
**658' FNL 929' FEL**



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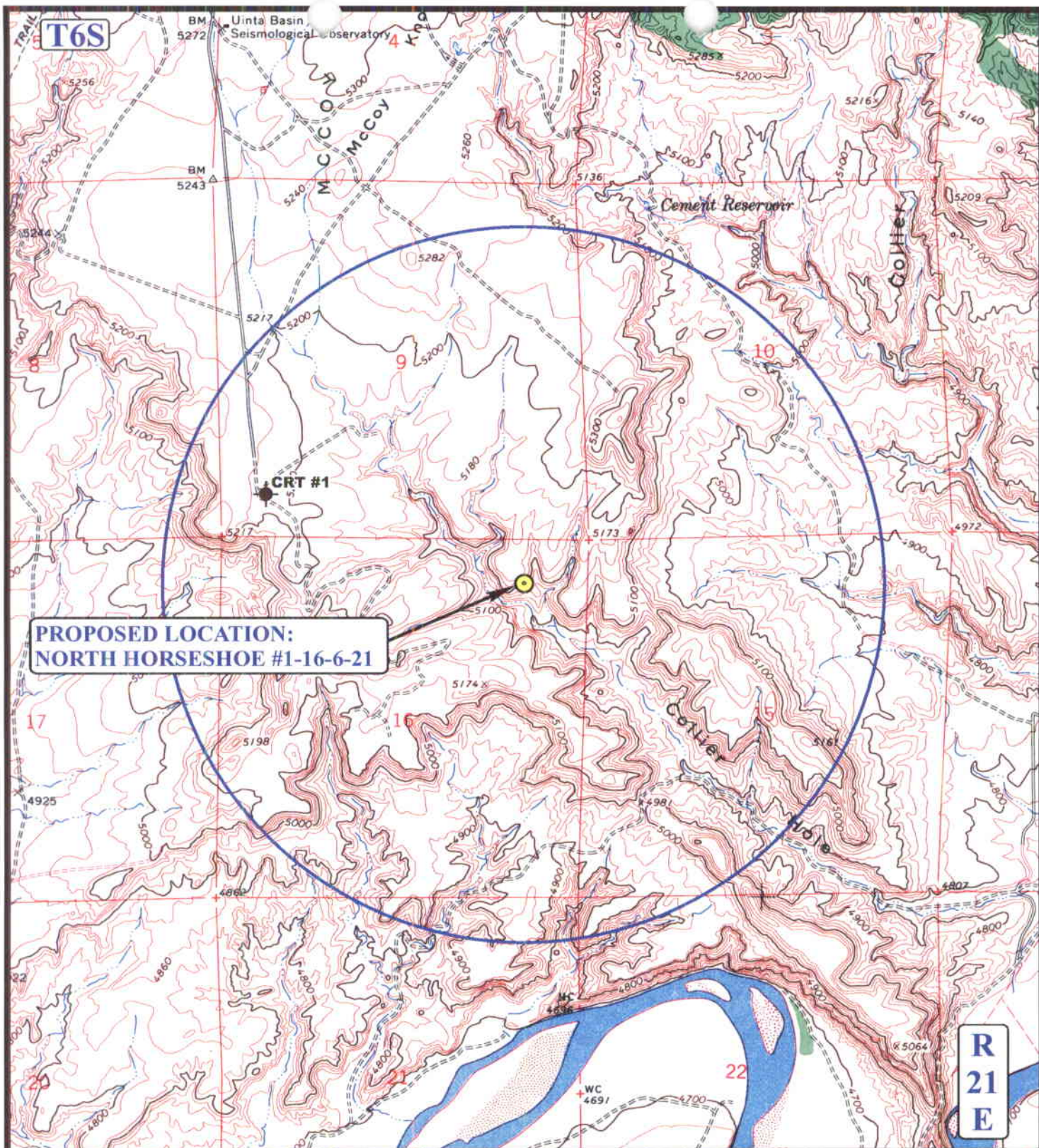
**TOPOGRAPHIC**  
**MAP**

**11 07 05**  
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: L.K. REVISED: 00-00-00







### LEGEND:

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED



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### THE HOUSTON EXPLORATION COMPANY

**NORTH HORSESHOE #1-16-6-21**  
**SECTION 16, T6S, R21E, S.L.B.&M.**  
**658' FNL 929' FEL**

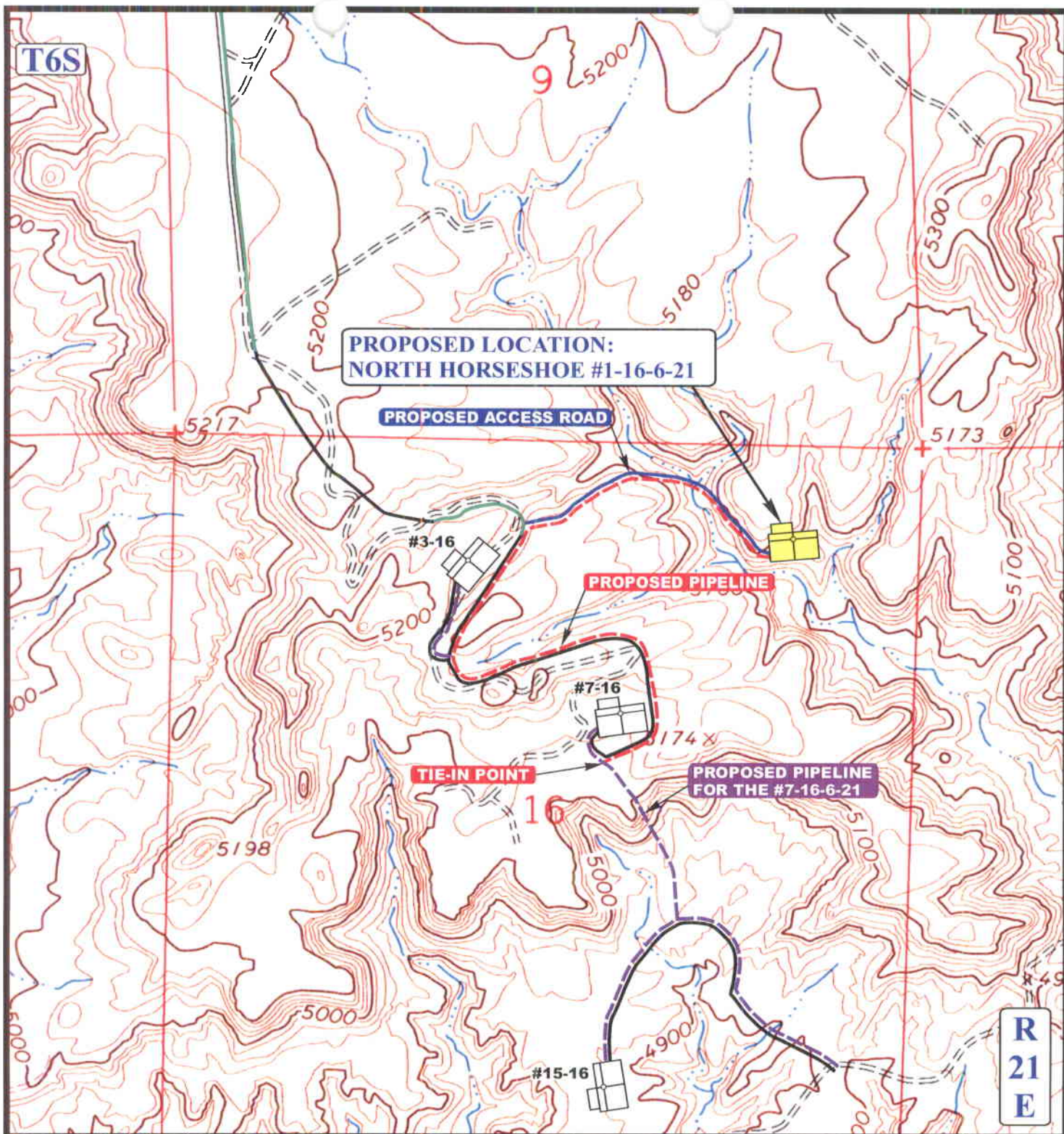
**TOPOGRAPHIC  
MAP**

**11 07 05**  
MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: L.K. REVISED: 00-00-00







**APPROXIMATE TOTAL PIPELINE DISTANCE = 5800' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- PROPOSED PIPELINE
- - - - PROPOSED PIPELINE (SERVICING OTHER WELLS)



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85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**THE HOUSTON EXPLORATION COMPANY**

**NORTH HORSESHOE #1-16-6-21**  
**SECTION 16, T6S, R21E, S.L.B.&M.**  
**658' FNL 929' FEL**

**TOPOGRAPHIC  
MAP**

**11 07 05**  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: L.K. REVISED: 00-00-00

**D  
TOPO**

**WORKSHEET**  
**APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 12/01/2005

API NO. ASSIGNED: 43-047-37442

WELL NAME: N HORSESHOE 1-16-6-21

OPERATOR: HOUSTON EXPLORATION CO, ( N2525 )

CONTACT: BILL RYAN

PHONE NUMBER: 435-789-0968

**PROPOSED LOCATION:**

NENE 16 060S 210E

SURFACE: 0658 FNL 0929 FEL

BOTTOM: 0658 FNL 0929 FEL

UINTAH

UNDESIGNATED ( 2 )

LEASE TYPE: 3 - State

LEASE NUMBER: ML-49317

SURFACE OWNER: 3 - State

PROPOSED FORMATION: MVRD

COALBED METHANE WELL? NO

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering	D&D	1/20/06
Geology		
Surface		

LATITUDE: 40.30430

LONGITUDE: -109.5542

**RECEIVED AND/OR REVIEWED:**

☒ Plat  
☒ Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 104155044 )  
☒ Potash (Y/N)  
☒ Oil Shale 190-5 (B) or 190-3 or 190-13  
☒ Water Permit  
(No. T-76073 )  
☒ RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )  
☒ Fee Surf Agreement (Y/N)  
☒ Intent to Commingle (Y/N)

**LOCATION AND SITING:**

☐ R649-2-3.  
Unit \_\_\_\_\_  
☐ R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells  
☒ R649-3-3. **Exception**  
☐ Drilling Unit  
Board Cause No: \_\_\_\_\_  
Eff Date: \_\_\_\_\_  
Siting: \_\_\_\_\_  
☐ R649-3-11. Directional Drill

COMMENTS:

Needs Pres to (12-15-05)

STIPULATIONS:

1- Spacing S&P  
2- STATEMENT OF BASIS





OPERATOR: THE HOUTON EXPL CO (N2525)

SEC: 16 T. 6S R. 21E

FIELD: UNDESIGNATED (002)

COUNTY: UINTAH

SPACING: R649-3-3 / EXCEPTION LOCATION

#### Field Status

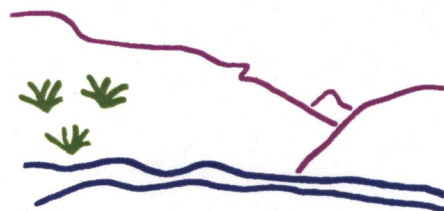
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED

#### Unit Status

- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

#### Wells Status

- ✱ GAS INJECTION
- ✱ GAS STORAGE
- ✱ LOCATION ABANDONED
- ⊙ NEW LOCATION
- ⊙ PLUGGED & ABANDONED
- ✱ PRODUCING GAS
- ✱ PRODUCING OIL
- ✱ SHUT-IN GAS
- ✱ SHUT-IN OIL
- ✱ TEMP. ABANDONED
- ⊙ TEST WELL
- ⊙ WATER INJECTION
- ⊙ WATER SUPPLY
- ⊙ WATER DISPOSAL
- ⊙ DRILLING



*Utah Oil Gas and Mining*



PREPARED BY: DIANA WHITNEY  
DATE: 7-DECEMBER-2005

**DIVISION OF OIL, GAS AND MINING  
APPLICATION FOR PERMIT TO DRILL  
STATEMENT OF BASIS**

**OPERATOR:** THE HOUSTON EXPLORATION COMPANY  
**WELL NAME & NUMBER:** NORTH HORSESHOE 1-16-6-21  
**API NUMBER:** 43-047-37442  
**LOCATION:** 1/4,1/4 NE/NE SEC: 16 TWP: 6S RNG: 21E, 658 FNL 929 FEL

**Geology/Ground Water:**

The Houston Ex. Co. proposes to set 2000 feet of surface casing cemented to the surface. The base of the moderately saline water is estimated at 4,100 feet. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this location is the Uinta Formation. The Uinta Formation is made up of discontinuous sands interbedded with shales and are not expected to produce prolific aquifers. The proposed surface casing should adequately protect any near surface aquifers.

**Reviewer:** Brad Hill **Date:** 12-20-05

**Surface:**

The predrill investigation of the surface was performed on 12/15/2005. Ben Williams with UDWR and Jim Davis with SITLA were invited to this investigation by email on 12/08/05. Mr. Williams was present. A phone call was received from Mr. Davis stating he was ill and would not attend. Mr. Williams representing the UDWR stated the area is classified as high value yearlong habitat for antelope and limited value yearlong habitat for deer. He did not recommend any restriction periods or actions to the Operator or SITLA for these species. He stated no other wildlife species are expected to be significantly affected. Mr. Williams also gave Ms. Stringham, representing The Houston Exploration Company, a UDWR recommended seed mix to be used when reserve pit and location are reclaimed. The location lies on a very steep east-facing slope above the bottom of a significant drainage. Draws exist both to the north and south and join below the location to form this drainage. Ledges formed by sandstone outcrops line the side slopes of the draws. A short diversion ditch is planned on the northeast end of the location. Significant cutting and filling will be required for the access road and to construct the pad. Proper installation and maintenance of a liner in the reserve pit is essential during drilling operations. This site is on State surface, with State minerals, and appears to be the best site for a location in the immediate area.

**Reviewer:** Floyd Bartlett **Date:** 12/19/2005

**Conditions of Approval/Application for Permit to Drill:**

1. A synthetic liner with a minimum thickness of 16 mils with a felt pad under-layment shall be properly installed and maintained in the reserve pit.

ON-SITE PREDRILL EVALUATION  
Division of Oil, Gas and Mining

OPERATOR: THE HOUSTON EXPLORATION COMPANY  
WELL NAME & NUMBER: NORTH HORSESHOE 1-16-6-21  
API NUMBER: 43-047-37442  
LEASE: ML-49317 FIELD/UNIT: Undesignated  
LOCATION: 1/4,1/4 NE/NE SEC: 16 TWP: 6S RNG: 21E, 658 FNL 929 FEL  
LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4,1/4 LINE; 920 F ANOTHER WELL.  
GPS COORD (UTM): 622867 E 4462325 N SURFACE OWNER: STATE OF UTAH (SITLA)

PARTICIPANTS

Floyd Bartlett (DOGM), Ginger Stringham (HOUSTON), Ben Williams (UDWR)  
Corey Stubbs (Stubbs & Stubbs Construction),

REGIONAL/LOCAL SETTING & TOPOGRAPHY

Section 16 is an isolated section owned by SITLA and surrounded by BLM lands with nearby private lands south along the Green river. The section is approximately 12 air miles south of Vernal and ½ mile north of the Green River on the south section line. The Green River area is known as Horseshoe Bend. McCoy Flat lies to the north of the section and contains relatively flat open country. Section 16 is generally in the breaks draining southerly toward the river. It is characterized by some flat ridges but steep draws and breaks are common. Finding suitable locations for wells without infringing on the adjacent ¼/¼ sections is difficult. The most direct and suitable accesses to the section is not as outlined in the APD. Suitable access can be obtained by following the Uintah County Twelve mile Wash road to the wells in the southeast ¼ of the section and the paved seismic installation McCoy Flat road to the north part of the section.

The proposed North Horseshoe 1-16-6-21 well lies on a very steep east-facing slope above the bottom of a significant drainage. Draws exist both to the north and south and join to form this drainage. Ledges formed by sandstone outcrops line the side slopes of the draws. To the north is a broad valley known as McCoy Flat. All drainages in the area are toward the Green River and are ephemeral. The only perennial water in the area is in the Green River.

Access to the site from Highway 40 will be following the McCoy Flat Uinta Basin Seismological Observation Station (abandoned) paved road, then along 2.3 miles of existing two-track road which will be up-graded or rerouted. From this point, 0.4 mile of new road will be constructed along the top of a ridge and crossing a deep draw to the proposed 1-16 well. Significant side hill cutting will be necessary to drop into, cross this draw and access the location.

SURFACE USE PLAN

CURRENT SURFACE USE: Limited hunting and sightseeing.

PROPOSED SURFACE DISTURBANCE: Reconstruct or upgrade 2.3 miles of

existing low standard road, construct 0.4 miles of new road requiring significant cuts and side-casting and construction of a well location 345'x 210' plus reserve pit and soil stockpile storage outside the described area.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: One well of unknown status as shown on attached 'TOPO C' map from GIS database.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: All production facilities will be on location and added after drilling the well. Pipeline will be laid along the edge of the proposed road approximately 5800 then tie in with a pipeline for the planned 7-16-6-21 well.

SOURCE OF CONSTRUCTION MATERIAL: All construction material will be borrowed from site during construction of location.

ANCILLARY FACILITIES: None will be required.

WILL DRILLING AT THIS LOCATION GENERATE PUBLIC INTEREST OR CONCERNS? EXPLAIN: Unlikely. Oilfield activity is common in the area. The location is not within or should it affect the Green River floodplain.

#### **WASTE MANAGEMENT PLAN:**

Drilled cuttings will be settled into reserve pit. Liquids from pit will be allowed to evaporate. Formation water will be confined to storage tanks. Commercial contractor will handle sewage facilities, storage and disposal. Trash will be contained in trash baskets and hauled to an approved land fill.

#### **ENVIRONMENTAL PARAMETERS**

AFFECTED FLOODPLAINS AND/OR WETLANDS: None. The Green River floodplain is approximately 2.0 miles to the south.

FLORA/FAUNA: Vegetation is a sparse desert type, which includes cheat grass, winter fat, annual mustard and broom snakeweed. Dominant fauna is pronghorn, rodents, songbirds, raptors, deer, bobcat, coyote, and small mammals.

SOIL TYPE AND CHARACTERISTICS: Gravely sandy loam with no sandstone outcrops.

EROSION/SEDIMENTATION/STABILITY: No stability problems are anticipated with the construction and operation of the location. A short diversion ditch is planned on the northeast end of the location. Significant cutting and filling will be required to construct the pad.

PALEONTOLOGICAL POTENTIAL: none observed.

#### **RESERVE PIT**

CHARACTERISTICS: 150' by 75' and 12' deep. The reserve pit is planned in an area of cut on the north west side of the location. No stabilization

problems are expected.

LINER REQUIREMENTS (Site Ranking Form attached): A liner will be required for reserve pit. Sensitivity score of 25, rating as Level I, Highly Sensitive. Operator routinely installs a 16 mil. liner in all reserve pits.

**SURFACE RESTORATION/RECLAMATION PLAN**

AS PER SITLA.

SURFACE AGREEMENT: AS PER SITLA.

CULTURAL RESOURCES/ARCHAEOLOGY: Site was inspected by Sagebrush Archeological Consultants on 10/6/2005. A report of this investigation will be placed in the file.

**OTHER OBSERVATIONS/COMMENTS**

Ben Williams representing the UDWR stated the area is classified as high value yearlong habitat for antelope and limited value yearlong habitat for deer. He did not recommend any restrictions to the Operator or SITLA.

Access to and construction of this location will be difficult requiring significant cuts and fills for the access road and pad.

**ATTACHMENTS**

Photos of site have been taken and placed on file.

Floyd Bartlett  
DOGM REPRESENTATIVE

12/15/2005 12:45 PM  
DATE/TIME



**Evaluation Ranking Criteria and Ranking Score  
For Reserve and Onsite Pit Liner Requirements**

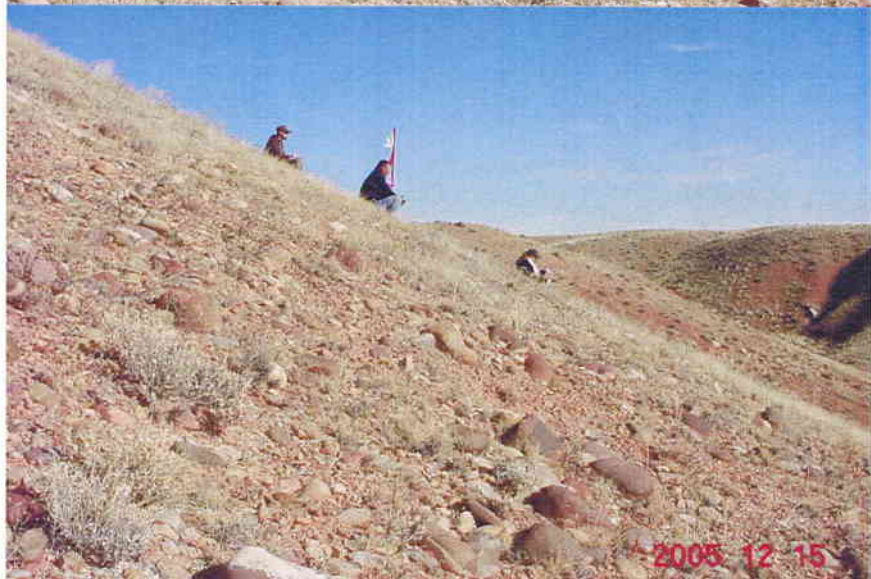
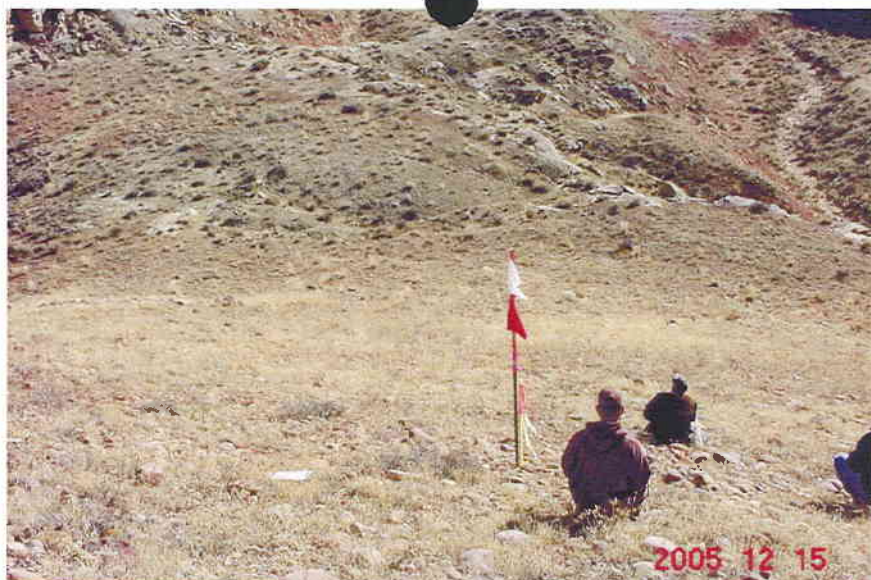
<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	<u>0</u>
<25 or recharge area	20	
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	<u>0</u>
Distance to Nearest Municipal Well (feet)		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	20	<u>0</u>
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	<u>0</u>
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>20</u>
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of hazardous constituents	20	<u>5</u>
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	<u>0</u>
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	<u>0</u>
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>0</u>
Presence of Nearby Utility Conduits		
Not Present	0	
Unknown	10	
Present	15	<u>0</u>

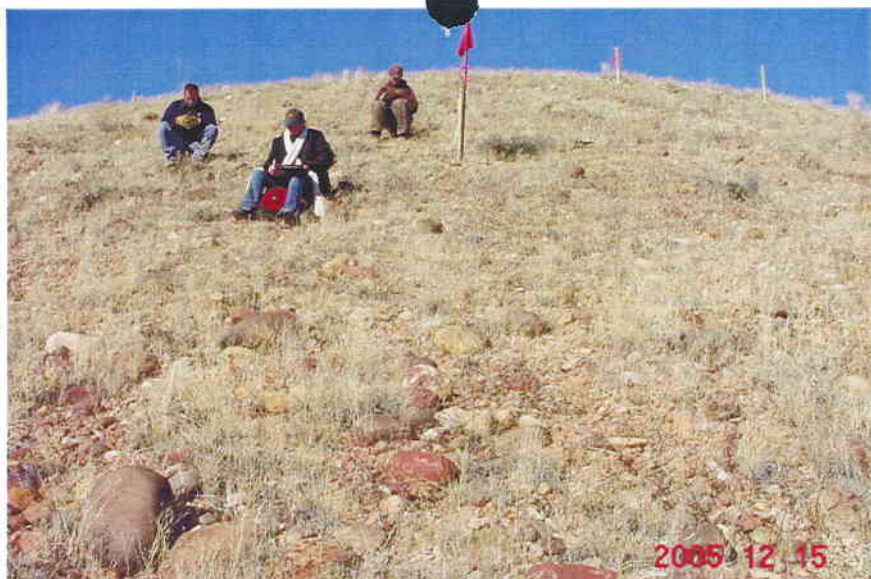
**Final Score**            25            (Level I Sensitivity)

Sensitivity Level I = 20 or more; total containment is required.

Sensitivity Level II = 15-19; lining is discretionary.

Sensitivity Level III = below 15; no specific lining is required.





# 1-06 Houston N Horseshoe 1-6-6-21

## Casing Schematic

Uinta

Surface

TOC @  
0.

1231 TOC  
Tail

✓ w/ 18% Washout

Surface  
2000. MD

8-5/8"  
MW 8.4  
Frac 19.3

BHP

$$(0.052)(10)(10,377) = 5396$$

Anticipate < 5000

Gen

$$(6.12)(10,377) = 1245$$

MASP = 3755

BOPE - 5,000 ✓

Surf csg - 4460

70% = 3122

Max pressure @ Surf csg shoe = 3158

Test To 3100# ✓

✓ Adequate D/W

1/20/06

4-1/2"  
MW 10.

TOC @  
3104.

4800 BMSW

4377 Green River

Propose To ± 2500'

7777 Wasatch

w/ 15% Washout

7992 TOC Tail

✓ TOC 2378' w/ 11% Washout

Production  
10377. MD

Mesaverde

Well name:	<b>01-06 Houston N Horseshoe 1-16-6-21</b>	
Operator:	<b>Houston Exploration Company</b>	
String type:	Surface	Project ID: 43-047-37442
Location:	Uintah County	

**Design parameters:**
**Collapse**

Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 93 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 250 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 1,760 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,000 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.

Neutral point: 1,749 ft

Non-directional string.

**Re subsequent strings:**

Next setting depth: 10,377 ft  
Next mud weight: 10.000 ppg  
Next setting BHP: 5,391 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,000 ft  
Injection pressure 2,000 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	2000	8.625	36.00	J-55	ST&C	2000	2000	7.7	143.5
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	873	3450	3.954	2000	4460	2.23	63	434	6.89 J

Prepared Clinton Dworshak  
by: Utah Div. of Oil & Mining

Phone: 801-538-5280  
FAX: 810-359-3940

Date: January 19, 2006  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:

**01-06 Houston N Horseshoe 1-16-6-21**Operator: **Houston Exploration Company**String type: **Production**

Project ID:

**43-047-37442**Location: **Uintah County****Design parameters:****Collapse**Mud weight: 10.000 ppg  
Design is based on evacuated pipe.**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 210 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 3,104 ft

**Burst**Max anticipated surface  
pressure: 4,145 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 5,391 psi

No backup mud specified.

**Tension:**8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Non-directional string.

Tension is based on buoyed weight.

Neutral point: 8,826 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	10377	4.5	11.60	N-80	LT&C	10377	10377	3.875	240.5
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5391	6350	1.178	5391	7780	1.44	102	223	2.18 J

Prepared Clinton Dworshak  
by: Utah Div. of Oil & MiningPhone: 801-538-5280  
FAX: 810-359-3940Date: January 19,2006  
Salt Lake City, Utah**Remarks:**Collapse is based on a vertical depth of 10377 ft, a mud weight of 10 ppg. The casing is considered to be evacuated for collapse purposes.  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

December 9, 2005

RE: The Houston Exploration Company  
North Horseshoe 1-16-6-21  
Sec. 16, T6S, R21E

Utah Division of Oil, Gas and Mining  
1549 West North Temple  
Suite 1210  
PO BOX 145801  
SLC, UT 84114

Dear Sir or Madam,

The Houston Exploration Company respectfully requests a spacing exception for the subject well. The well has been moved from the center of the forty-acre spacing.

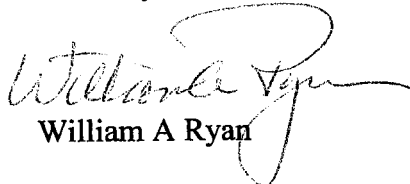
The well is located at 658' FNL & 929' FEL, which has changed from the proposed location at 660' FNL & 660' FEL.

The location was moved due to topographic considerations and access. Please see the plat maps.

The Houston Exploration Company is the only lease owner within a 460' radius.

If you have additional questions please contact William A Ryan, Agent  
290 S 800 E  
Vernal, UT 84078  
435-789-0968

Sincerely,

  
William A Ryan

RECEIVED  
JAN 31 2006  
DIV. OF OIL, GAS & MINING

**From:** Ed Bonner  
**To:** Whitney, Diana  
**Date:** 6/27/2006 10:17:58 AM  
**Subject:** Well Clearance

The following wells have been given cultural resource clearance by the Trust Lands Cultural Resources Group:

Dominion E&P, Inc  
LCU 1-2H

Enduring Resources, LLC  
Rock House 10-23-23-32  
Rock House 11-23-11-2

EOG Resources, Inc  
Big Spring 3-36 GR  
East Chapita 30-16

The Houston Exploration Company  
North Horseshoe 1-16-6-21  
North Horseshoe 13-16-6-21  
North Horseshoe 13-2-6-21  
North Horseshoe 15-2-6-21

Kerr McGee Oil & Gas Onshore LP  
NBU 921-25A  
NBU 921-25P  
NBU 921-35J  
NBU 922-32K2

Questar Exploration & Production  
HR 2MU-2-12-23  
HR 3MU-2-12-23  
HR 6MU-2-12-23 (Cleared provided operator follows arch consultants recommendation to move location avoiding significant site)  
HR 10MU-2-12-23  
HR 12MU-2-12-23  
HR 14MU-2-12-23  
HR 16MU-2-12-23

Stone Energy Corporation  
Stone Rush 44-32-8-17

If you have any questions regarding this matter please give me a call.

**CC:** Davis, Jim; Garrison, LaVonne; Hill, Brad; Hunt, Gil





**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

June 29, 2006

Houston Exploration Company  
1100 Louisiana, Suite 2000  
Houston, TX 77002

Re: North Horseshoe 1-16-6-21 Well, 658' FNL, 929' FEL, NE NE, Sec. 16,  
T. 6 South, R. 21 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-37442.

Sincerely,

*For* Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
SITLA

**Operator:** Houston Exploration Company  
**Well Name & Number** North Horseshoe 1-16-6-21  
**API Number:** 43-047-37442  
**Lease:** ML-49317

**Location:** NE NE                      **Sec.** 16                      **T.** 6 South                      **R.** 21 East

### **Conditions of Approval**

1. **General**

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. **Notification Requirements**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- 24 hours prior to cementing or testing casing
- 24 hours prior to testing blowout prevention equipment
- 24 hours prior to spudding the well
- within 24 hours of any emergency changes made to the approved drilling program
- prior to commencing operations to plug and abandon the well

The following are Division of Oil, Gas and Mining contacts and their work telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at (801) 538-5338
- Carol Daniels at (801) 538-5284 (spud)

3. **Reporting Requirements**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.
6. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

CONTROL

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-49317
2. NAME OF OPERATOR: The Houston Exploration Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA
3. ADDRESS OF OPERATOR: 1100 Louisiana Suite 2000 CITY Houston STATE TX ZIP 77002		7. UNIT or CA AGREEMENT NAME: NA
4. LOCATION OF WELL FOOTAGES AT SURFACE: 658' FNL & 929' FEL		8. WELL NAME and NUMBER: North Horseshoe1-16-6-21
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 16 6S 21E		9. API NUMBER: 4304737442
COUNTY: Uintah		10. FIELD AND POOL, OR WILDCAT: Undesignated
STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: Extension
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Operator respectfully requests to extend approval for the subject location for one year.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 05-21-07  
By: [Signature]

COPY SENT TO OPERATOR  
Date: 5-22-07  
Initials: PM

NAME (PLEASE PRINT) William A. Ryan TITLE Agent  
SIGNATURE [Signature] DATE 5/14/2007

(This space for State use only)

RECEIVED  
MAY 21 2007

**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

**API:** 4304737442  
**Well Name:** North Horseshoe 1-16-6-21  
**Location:** Section 16, Township 6 South, Range 21 East NENE  
**Company Permit Issued to:** The Houston Exploration Company  
**Date Original Permit Issued:** 6/29/2006

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes ☐ No ☒

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes ☐ No ☒

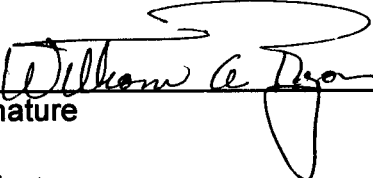
Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes ☐ No ☒

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes ☐ No ☒

Has the approved source of water for drilling changed? Yes ☐ No ☒

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes ☐ No ☒

Is bonding still in place, which covers this proposed well? Yes ☒ No ☐

  
Signature

5/14/2007

Date

Title: Agent

Representing: The Houston Exploration Company

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MAY 21 2007

DIV. OF OIL, GAS & MINING

**Division of Oil, Gas and Mining**  
**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. DJJ

2. CDW

Change of Operator (Well Sold)

**X - Operator Merger**

The operator of the well(s) listed below has changed, effective:

**6/1/2007**

<b>FROM: (Old Operator):</b> N2525 - The Houston Exploration Company 1100 Louisiana, Suite 2000 Houston, TX 77002 Phone: 1-(713) 830-6800	<b>TO: (New Operator):</b> N6965-Forest Oil Corporation 707 17th St, Suite 3600 Denver, CO 80202 Phone: 1 (303) 812-1755
---	--

CA No.				Unit:				
WELL NAME	SEC TWN RNG			API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
SEE ATTACHED LIST								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/30/2007
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/30/2007
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 7/31/2007
- a. Is the new operator registered in the State of Utah: Business Number: 571171-0143
- b. If **NO**, the operator was contacted on: \_\_\_\_\_
- a. (R649-9-2) Waste Management Plan has been received on: IN PLACE
- b. Inspections of LA PA state/fee well sites complete on: \_\_\_\_\_
- c. Reports current for Production/Disposition & Sundries on: YES
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM 7/31/2007 BIA
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 8/27/2007
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 8/27/2007
- Bond information entered in RBDMS on: 8/27/2007
- Fee/State wells attached to bond in RBDMS on: 8/27/2007
- Injection Projects to new operator in RBDMS on: n/a
- Receipt of Acceptance of Drilling Procedures for APD/New on: 7/30/2007

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: 6236351
- Indian well(s) covered by Bond Number: n/a
- a. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 6218963
- b. The **FORMER** operator has requested a release of liability from their bond on: not yet

**LEASE INTEREST OWNER NOTIFICATION:**

- (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 8/1/2007

**COMMENTS:**

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: See Attached List
2. NAME OF OPERATOR: Forest Oil Corporation <i>N6965</i>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 707 17th Street, #3600 CITY Denver, STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: See attached list		8. WELL NAME and NUMBER: See Attached List
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:		9. API NUMBER: various
COUNTY:		10. FIELD AND POOL, OR WILDCAT:
STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Change of Operator</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

*N2525*  
Effective 6/1/2007 please change the operator for the attached list of Utah wells from The Houston Exploration Company N-2525) to Forest Oil Corporation (N-6965). Forest merged with The Houston Exploration Company, a copy of the merger document is attached.. The contract operated wells will continue to be contract operated by Enduring.

Forest Oil Corporation as new operator, accepts all applicable terms, conditions, stipulations and restrictions concerning approved operations conducted on the lease or portion of the lease described.

Forest Oil Corporation meets the State of Utah bonding requirements under Safeco bond #6218963.

Please send all future correspondence to Forest Oil Corporation at the above listed address.

Forest Oil Corporation, 707 17th Street, Suite #3600, Denver, CO 80202

*JCR*  
J. C. Ridens, Senior Vice President - Western Region

*7-5-07*  
Date

NAME (PLEASE PRINT) <u>Joanne C. Hresko</u>	TITLE <u>Vice President &amp; General Mgr. - Northern Division</u>
SIGNATURE <i>Joanne C. Hresko</i>	DATE <u>7-5-07</u>

(This space for State use only)

APPROVED *8/12/07*  
*Earlene Russell*  
(5/2000) Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

*All wells with APD or New status*  
(See Instructions on Reverse Side)

RECEIVED  
JUL 30 2007

DIV OF OIL, GAS & MINING

*wmp*

well_name	sec	twp	rng	api	entity	lease	well	stat	flag
HORSESHOE BEND 16-33	33	060S	210E	4304736214		Federal	OW	APD	
HORSESHOE BEND 3-33	33	060S	210E	4304736215		Federal	OW	APD	
N HORSESHOE 7-16-6-21	16	060S	210E	4304737438		State	GW	APD	C
N HORSESHOE 9-16-6-21	16	060S	210E	4304737439		State	GW	APD	C
N HORSESHOE 15-16-6-21	16	060S	210E	4304737440		State	GW	APD	C
N HORSESHOE 11-16-6-21	16	060S	210E	4304737441		State	GW	APD	C
N HORSESHOE 1-16-6-21	16	060S	210E	4304737442		State	GW	APD	C
N HORSESHOE 13-2-6-21	02	060S	210E	4304737476		State	GW	APD	C
N HORSESHOE 15-2-6-21	02	060S	210E	4304737477		State	GW	APD	C
GUSHER 2-2-6-19	02	060S	190E	4304737561		State	OW	APD	C
GUSHER 16-2-6-19	02	060S	190E	4304737562		State	OW	APD	C
GUSHER 1-2-6-19	02	060S	190E	4304737563		State	OW	APD	C
GUSHER 3-2-6-19	02	060S	190E	4304737568		State	OW	APD	C
E COYOTE 6-2-8-25	02	080S	250E	4304737572		State	GW	APD	C
E COYOTE 3-2-8-25	02	080S	250E	4304737573		State	GW	APD	C
E COYOTE 8-2-8-25	02	080S	250E	4304737574		State	GW	APD	C
N HORSESHOE 13-16-6-21	16	060S	210E	4304737575		State	GW	APD	C
E COYOTE 4-2-8-25	02	080S	250E	4304737882		State	GW	APD	C
E COYOTE 14-2-8-25	02	080S	250E	4304737883		State	GW	APD	C
E COYOTE 10-2-8-25	02	080S	250E	4304737884		State	GW	APD	C
E COYOTE 16-2-8-25	02	080S	250E	4304737885		State	GW	APD	C
E COYOTE 12-2-8-25	02	080S	250E	4304737886		State	GW	APD	C
N HORSESHOE 16-18-6-22	18	060S	220E	4304737887		Federal	GW	APD	C
N HORSESHOE 14-18-6-22	18	060S	220E	4304737888		Federal	GW	APD	C
N HORSESHOE 2-18-6-22	18	060S	220E	4304737889		Federal	GW	APD	C
N HORSESHOE 10-18-6-22	18	060S	220E	4304737890		Federal	GW	APD	C
N HORSESHOE 8-18-6-22	18	060S	220E	4304737891		Federal	GW	APD	C
N HORSESHOE 13-15-6-21	15	060S	210E	4304738013		Federal	GW	APD	C
N HORSESHOE 15-15-6-21	15	060S	210E	4304738014		Federal	GW	APD	C
N HORSESHOE 11-15-6-21	15	060S	210E	4304738015		Federal	GW	APD	C
N HORSESHOE 9-15-6-21	15	060S	210E	4304738016		Federal	GW	APD	C
N HORSESHOE 5-15-6-21	15	060S	210E	4304738017		Federal	GW	APD	C
N HORSESHOE 3-15-6-21	15	060S	210E	4304738018		Federal	GW	APD	C
N HORSESHOE 5-20-6-22	20	060S	220E	4304738019		Federal	GW	APD	C
N HORSESHOE 13-20-6-22	20	060S	220E	4304738020		Federal	GW	APD	C
N HORSESHOE 3-20-6-22	20	060S	220E	4304738021		Federal	GW	APD	C
N HORSESHOE 7-20-6-22	20	060S	220E	4304738022		Federal	GW	APD	C
N HORSESHOE 11-20-6-22	20	060S	220E	4304738023		Federal	GW	APD	C
N HORSESHOE 2-12-6-21	12	060S	210E	4304738198		Federal	GW	APD	C
N HORSESHOE 14-12-6-21	12	060S	210E	4304738199		Federal	GW	APD	C
N HORSESHOE 10-12-6-21	12	060S	210E	4304738200		Federal	GW	APD	C
N HORSESHOE 8-12-6-21	12	060S	210E	4304738201		Federal	GW	APD	C
N HORSESHOE 16-13-6-21	13	060S	210E	4304738202		Federal	GW	APD	C
N HORSESHOE 15-17-6-22	17	060S	220E	4304738203		Federal	GW	APD	C
N HORSESHOE 5-19-6-22	19	060S	220E	4304738204		Federal	GW	APD	C
N HORSESHOE 15-19-6-22	19	060S	220E	4304738205		Federal	GW	APD	C
N HORSESHOE 3-21-6-22	21	060S	220E	4304738206		Federal	GW	APD	C
N HORSESHOE 11-21-6-22	21	060S	220E	4304738207		Federal	GW	APD	C
N HORSESHOE 15-21-6-22	21	060S	220E	4304738208		Federal	GW	APD	C
N HORSESHOE 13-21-6-22	21	060S	220E	4304738209		Federal	GW	APD	C
N HORSESHOE 5-21-6-22	21	060S	220E	4304738210		Federal	GW	APD	C
N HORSESHOE 7-19-6-22	19	060S	220E	4304738271		Federal	GW	APD	C
N HORSESHOE 5-16-6-22	16	060S	220E	4304738406		State	GW	APD	



well_name	sec	twp	rng	api	entity	lease	well	stat	flag
TWELVEMILE WASH 11-13-5-20	13	050S	200E	4304738437		Federal	GW	APD	C
TWELVEMILE WASH 1-15-5-20	15	050S	200E	4304738438		Federal	GW	APD	C
N HORSESHOE 4-33-5-21	33	050S	210E	4304738439		Federal	GW	APD	C
GUSHER 6-15-6-19	15	060S	190E	4304738440		Federal	GW	APD	C
HORSESHOE BEND W 9-34-6-20	34	060S	200E	4304738441		Federal	GW	APD	C
N HORSESHOE 16-12-6-21	12	060S	210E	4304738442		Federal	GW	APD	C
N WALKER HOLLOW 12-29-6-23	29	060S	230E	4304738443		Federal	GW	APD	C
N WALKER HOLLOW 10-30-6-23	30	060S	230E	4304738444		Federal	GW	APD	C
PELICAN LAKE 11-3-8-20	03	080S	200E	4304738445		Federal	GW	APD	C
PELICAN LAKE 8-4-8-20	04	080S	200E	4304738446		Federal	GW	APD	C
E COYOTE 10-3-8-25	03	080S	250E	4304738447		Federal	GW	APD	C
BORDER 10-9-8-25	09	080S	250E	4304738448		Federal	GW	APD	C
N WALKER HOLLOW 14-33-6-23	33	060S	230E	4304738455		Federal	GW	APD	C
SNAKE JOHN WASH 14-11-7-25	11	070S	250E	4304738456		Federal	GW	APD	C
SNAKE JOHN WASH 4-24-7-25	24	070S	250E	4304738457		Federal	GW	APD	C
SQUAW RIDGE 1-26-7-25	26	070S	250E	4304738458		Federal	GW	APD	C
SQUAW RIDGE 13-28-7-25	28	070S	250E	4304738459		Federal	GW	APD	C
SQUAW RIDGE 16-30-7-25	30	070S	250E	4304738460		Federal	GW	APD	C
SQUAW RIDGE 14-16-7-25	16	070S	250E	4304738461		State	GW	APD	C
GUSHER 13-11-5-19	11	050S	190E	4304738462		State	GW	APD	C
N HORSESHOE 1-15-6-21	15	060S	210E	4304738831		Federal	GW	APD	C
N HORSESHOE 16-9-6-22	09	060S	220E	4304739083		State	GW	APD	
N HORSESHOE 12-7-6-22	07	060S	220E	4304739084		State	GW	APD	
N HORSESHOE 14-10-6-22	10	060S	220E	4304739085		State	GW	APD	
N HORSESHOE 2-15-6-22	15	060S	220E	4304739086		State	GW	APD	
N WALKER HOLLOW 12-32-6-23	32	060S	230E	4304739087		State	GW	APD	
N WALKER HOLLOW 10-32-6-23	32	060S	230E	4304739088		State	GW	APD	
N WALKER HOLLOW 16-32-6-23	32	060S	230E	4304739089		State	GW	APD	
N WALKER HOLLOW 8-32-6-23	32	060S	230E	4304739090		State	GW	APD	
N WALKER HOLLOW 11-36-6-23	36	060S	230E	4304739091		State	GW	APD	
N WALKER HOLLOW 13-36-6-23	36	060S	230E	4304739092		State	GW	APD	
N WALKER HOLLOW 14-32-6-23	32	060S	230E	4304739093		State	GW	APD	
N WALKER HOLLOW 15-36-6-23	36	060S	230E	4304739094		State	GW	APD	
N HORSESHOE 4-15-6-22	15	060S	220E	4304739095		State	GW	APD	
N HORSESHOE 9-10-6-21	10	060S	210E	4304739284		Federal	GW	APD	C
N HORSESHOE 12-13-6-21	13	060S	210E	4304739285		Federal	GW	APD	
N HORSESHOE 7-15-6-21	15	060S	210E	4304739286		Federal	GW	APD	
N HORSESHOE 9-19-6-22	19	060S	220E	4304739287		Federal	GW	APD	
N HORSESHOE 13-19-6-22	19	060S	220E	4304739288		Federal	GW	APD	
N HORSESHOE 11-19-6-22	19	060S	220E	4304739289		Federal	GW	APD	
SQUAW RIDGE 16-13-7-24	13	070S	240E	4304739319		Federal	GW	APD	C
N HORSESHOE 16-7-6-22	07	060S	220E	4304739320		Federal	GW	APD	C
SQUAW RIDGE 8-16-7-25	16	070S	250E	4304738024		State	GW	NEW	C

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**Request to Transfer Application or Permit to Drill**

(This form should accompany a Sundry Notice, Form 9, requesting APD transfer)

<b>Well name:</b>	N Horseshoe 1-16-6-21
<b>API number:</b>	4304737442
<b>Location:</b>	Qtr-Qtr: NENE    Section: 16    Township: 6S    Range: 21E
<b>Company that filed original application:</b>	The Houston Exploration Company
<b>Date original permit was issued:</b>	06/29/2006
<b>Company that permit was issued to:</b>	The Houston Exploration Company

Check one	Desired Action:
<input type="checkbox"/>	<b>Transfer pending (unapproved) Application for Permit to Drill to new operator</b>
<input type="checkbox"/>	The undersigned as owner with legal rights to drill on the property, hereby verifies that the information as submitted in the pending Application for Permit to Drill, remains valid and does not require revision. The new owner of the application accepts and agrees to the information and procedures as stated in the application.
<input checked="" type="checkbox"/>	<b>Transfer approved Application for Permit to Drill to new operator</b>
<input type="checkbox"/>	The undersigned as owner with legal rights to drill on the property as permitted, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.	Yes	No
If located on private land, has the ownership changed?		<input checked="" type="checkbox"/>
<input type="checkbox"/> If so, has the surface agreement been updated?		
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?		<input checked="" type="checkbox"/>
Have there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?		<input checked="" type="checkbox"/>
Have there been any changes to the access route including ownership or right-of-way, which could affect the proposed location?		<input checked="" type="checkbox"/>
Has the approved source of water for drilling changed?		<input checked="" type="checkbox"/>
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?		<input checked="" type="checkbox"/>
Is bonding still in place, which covers this proposed well? Bond No. <u>6218963</u>	<input checked="" type="checkbox"/>	

Any desired or necessary changes to either a pending or approved Application for Permit to Drill that is being transferred, should be filed on a Sundry Notice, Form 9, or amended Application for Permit to Drill, Form 3, as appropriate, with necessary supporting information as required.

Name (please print) Tami Hofmann Title Regulatory Specialist  
Signature Tami Hofmann Date 08/02/2007  
Representing (company name) Forest Oil Corporation

The person signing this form must have legal authority to represent the company or individual(s) to be listed as the new operator on the Application for Permit to Drill.

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-49317
2. NAME OF OPERATOR: Forest Oil Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA
3. ADDRESS OF OPERATOR: 707 17th ST Suite 3600 CITY Denver STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME: NA
PHONE NUMBER: (303) 812-1700		8. WELL NAME and NUMBER: North Horseshoe 1-16-6-21
4. LOCATION OF WELL FOOTAGES AT SURFACE: 658' FNL & 929' FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 16 6S 21E		9. API NUMBER: 4304737442
COUNTY: Uintah		10. FIELD AND POOL, OR WILDCAT: Exploratory
STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Extension</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The Operator respectfully requests a one year approval extension for the subject location.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 04-29-08  
By: [Signature]

COPY SENT TO OPERATOR

Date: 5.1.2008  
Initials: KS

NAME (PLEASE PRINT) <u>Ginger Bowden</u>	TITLE <u>Agent</u>
SIGNATURE <u>[Signature]</u>	DATE <u>4/16/2008</u>

(This space for State use only)

RECEIVED  
APR 28 2008  
DIV. OF OIL, GAS & MINING

**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

**API:** 4304737442  
**Well Name:** North Horseshoe 1-16-6-21  
**Location:** Section 16, Township 6 South Range 21 East NENE  
**Company Permit Issued to:** Forest Oil Corporation (Houston Exploration Co)  
**Date Original Permit Issued:** 6/29/2006

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes ☐ No ☒

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes ☐ No ☒

Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes ☐ No ☒

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes ☐ No ☒

Has the approved source of water for drilling changed? Yes ☐ No ☒

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes ☐ No ☒

Is bonding still in place, which covers this proposed well? Yes ☒ No ☐

Eringer Bowden  
Signature

4/16/2008  
Date

Title: Agent

Representing: Forest Oil Corporation

RECEIVED

APR 28 2008

DIV. OF OIL, GAS & MINING



JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

June 18, 2009

Forest Oil Corporation  
707 17<sup>th</sup> Street, Suite 3600  
Denver, CO 80202

Re: APD Rescinded – N Horseshoe 1-16-6-21, Sec.16, T.6S, R.21E  
Uintah County, Utah API No. 43-047-37442

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on June 29, 2006. On May 21, 2007 and April 29, 2008 the Division granted a one-year APD extension. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective June 18, 2009.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason  
Environmental Scientist

cc: Well File  
SITLA, Ed Bonner

